

APPLICATION MANUAL FOR THE WIND ENERGY TARGET SOLICITATION

*“EXPANDED WIND REGIME TURBINE TECHNOLOGY
AND INTERMITTENCY MANAGEMENT
DEMONSTRATION”*

MANUAL

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I. Introduction

How is this Solicitation Organized?

This Wind Targeted Solicitation for *Expanded Wind Regime Turbine Technology and Intermittency Management Capability Demonstration* is organized into the following sections:

- Section I. Introduction
- Section II. General Overview
- Section III. Questions about the Wind Targeted Solicitation for Expanded Wind Regime Turbine Technology and Intermittency Management Capability (IMC) Demonstration
 - A. *Questions Related to Wind Energy/PIER Renewables Energy Program Area*
 - B. *Questions Related to Proposal Format and Required Documents*
 - C. *Questions Related to Evaluation Process and Scoring Criteria*
 - D. *Questions Related to Submission of Applications*
- Section IV. Key Words and Definitions
- Section V. Application Manual Attachments and Forms

II. General Overview

What is the General Overview of this Solicitation?

The overall purpose of this targeted wind Solicitation is to help achieve the state's Renewable Portfolio Standard (RPS) goals by accelerating development of California's wind resources. Enacted in 2002, the California RPS requires retail sellers of electricity to purchase 20% of their electricity procurements from renewable resources by no later than 2017. In the Energy Commission's Energy Action Plan, this goal has been accelerated to 20% by 2010. Given the rapid development and deployment of wind projects and the state's abundant supply of wind resources, wind generated electricity is perceived as a major contributor to the accelerated RPS goals. However, to meet the state's RPS goals, new turbine technologies are required that can cost-effectively harness the wind from a variety of speed regimes and accommodate for the intermittent nature of wind. This Targeted Wind Energy Solicitation will demonstrate turbine systems capable of operating in an expanded low speed wind regime as well as illustrate intermittency management strategies and systems that will firm up wind generated electricity and better enable wind energy systems to cost-effectively provide electricity. This Solicitation will provide funding to support new and innovative technologies demonstrated on a complete turbine system that can help accelerate development in the state's low speed wind resource regimes (Class 3 wind speeds measured at 10 meters above the ground).

Traditionally, wind developments focused on windy areas with speeds averaging 13 miles per hour. Designated as Class 5 and above in the 1980s, these areas were considered to be the most

economical and feasible for harnessing wind power based on turbine technology of the time. Over the decades, improvements in turbine component manufacturing, power electronics and aerodynamics have improved their overall performance, increased market competitiveness by reducing the cost of energy (COE) and expanded markets from onshore to offshore applications. These improvements are also making moderate and lower speed wind regimes (Class 3 and 4) more economically viable. Wind resource assessments conducted for the Energy Commission show there are significantly more low speed wind regimes in the state than high speed wind. Lower speed wind regimes tend to also be closer to electricity demand centers. Increasing development in low speed wind regimes will help locate generation resources closer to demand centers and point of use locations. In addition, coupling wind resources with firming options will enhance the value of wind-generated electricity and can help make it a dispatchable commodity. Benefits to California ratepayers include more affordable, diverse, reliable, environmentally preferred and safe electricity using in-state renewable resources.

This is a targeted, performance-based Solicitation and only those candidates who meet the selection and minimum scoring criteria stipulated in the Application Manual will be considered for funding. The primary project focus is on demonstration of a complete wind turbine system and coupling with a deployable intermittency management capability (IMC) that relies on commercially available generation/storage technologies. Only complete wind turbine system technologies will be considered for this demonstration project. Additionally, project funds are not to be expended on research or development of any coupled hybrid generation/storage technologies. Incremental advances and component development must be integrated into a complete wind turbine system. Considerations must also be made to include firming options that meet minimal performance criteria as specified in the application manual. Firming options may include the selection of the best storage option, hybrid technology, power purchase or other alternatives but must be tailored for integrated operation with the wind generation resource at the particular site.

The Public Interest Energy Research (PIER) Program under the Renewable Energy Subject Area will provide up to \$5 million of funding for this targeted Solicitation to research, develop and demonstrate (RD&D) expanded wind regime technologies coupled with intermittency management options. A single proposal may request no more than \$1.75 million in PIER funding.

Wind turbine manufacturers and technology developers with a demonstrated commercialization capability are targeted under this Solicitation. It is the responsibility of the Applicant to organize and manage a minimum recommended RD&D team that include technology developers, utility integrators and intermittency management developers to fulfill the Solicitation objectives. Additionally, teams of subcontractors may include any or all of the following: RD&D organizations in turbine technologies, RD&D organizations dealing with storage devices/systems, individuals, businesses, land and farm owners, developers, utilities/municipal utilities and public or private research institutions.

Administered by the Energy Commission, the PIER program funds certain public interest energy RD&D efforts that will advance energy science and technology and benefit California ratepayers in a way not adequately provided by the competitive and regulated energy markets. PIER's

mission is to conduct public interest energy RD&D that improves the quality of life for Californians by providing environmentally sound, safe, reliable and affordable energy services and products. Detailed information about the PIER program can be found on the Energy Commission website at <http://www.energy.ca.gov/research>.

III. Questions about the Wind Targeted Solicitation for Expanded Wind Regime Turbine Technology & Intermittency Management Capability Demonstration

The following questions and answers should provide prospective Applicants with valuable information about this RD&D effort and the application process. All Applicants are strongly encouraged to submit any questions about this Solicitation to the Energy Commission's Research and Development Office, and to attend the pre-proposal conference noted below.

What is the Schedule?

Schedule of application, award, and project start dates.

Pre-Proposal Conference Hearing Room B, California Energy Commission 1516 Ninth St, Sacramento, CA 95814	<i>Estimated</i> August 12, 2004 1:00 p.m. to 3:30 p.m.
Post Question and Answers from Pre-Proposal Conferences (See Energy Commission's Web Site)	<i>Estimated</i> August 19, 2004
Deadline to Submit Proposals	September 7, 2004 4:00 p.m.
Review Proposals	September 8 – October 8, 2004
Interview Applicants (if necessary)	<i>Estimated</i> October 25 – 28, 2004
Post Notice of Award	<i>Estimated</i> November 12, 2004
Energy Commission Business Meeting	<i>Estimated</i> December 15, 2004

A. Questions Related to Wind/PIER Renewables Energy Program Area

A1. What is the PIER Program and How is it Related to this Wind Targeted Solicitation?

In 1996, Governor Wilson signed into law Assembly Bill (AB) 1890 (1996 California Statutes, Chapter 854) which provided authority for a fundamental restructuring of California's electric services industry. Among other things, AB 1890 added Section 381 to the Public Utilities Code, requiring that at least \$62.5 million be collected annually from investor-owned electric utility ratepayers for “public interest” energy RD&D efforts not adequately provided by competitive and regulated markets. Of this amount, the Energy Commission administers \$61.8 million per year through the PIER program.

Since the funds for the PIER program are paid by specified investor owned utility (IOU) electricity ratepayers, the RD&D efforts supported by these funds *must* provide benefits to these electricity ratepayers. However, while the program will emphasize electricity-related RD&D activities, RD&D efforts that benefit other types of energy users may also qualify for PIER funding *if* such projects *also* provide benefits to electricity ratepayers as well.

On September 30, 2000, the Governor signed AB 995 (Wright) extending PIER until January 1, 2010 and allocating \$62.5 million per year to the program.

Following a statewide collaborative effort, the Energy Commission adopted its “*Strategic Plan For Implementing The RD&D Provisions Of AB 1890.*” (Energy Commission Publication No. P500-97-007, June 1997.) The Energy Commission’s RD&D Strategic Plan identified the overall mission of the PIER program as follows:

“The mission of the ‘Public Interest Energy Research’ program is to conduct public interest energy research that seeks to improve the quality of life for California’s citizens by providing environmentally sound, safe, reliable and affordable energy services and products. ‘Public interest energy research’ includes the full range of research, development and demonstration activities that will advance science or technology not adequately provided by competitive and regulated markets.”

With abundant windy resource areas in the state, the potential exists to increase penetration of wind resources and provide solutions to the state’s heavily constrained electricity infrastructure. PIER’s efforts in supporting wind energy forecasting efforts to better integrate existing high wind resource and developing new areas with low wind speed potential to increase wind penetration is consistent with stated program goals.

A2. What are PIER Program Areas?

Senate Bill (SB) 90 was enacted into law (1997 California Statutes, Chapter 905) in 1997. Among other things, this legislation established certain administration and expenditure criteria for the PIER Program, and required the program portfolio to include five “relevant core subject

areas.” The five core research subject areas included in PIER were renewable energy, environmentally preferred advanced generation, energy-related environmental enhancements, end-use energy efficiency, and strategic energy research. (See Public Resources Code Sections 25620 *et seq.*). After the passage of SB 90, the Energy Commission divided the end-use energy efficiency core subject area into two efficiency program areas, namely (1) Buildings, and (2) Industrial/Agricultural/Water.

In the renewable energy program area, there are 6 subject areas being covered: wind, biomass photovoltaic, solar thermal, geothermal and small hydro.

This Solicitation covers wind RD&D within the Renewable Energy Program area. Specifically, this Solicitation targets accelerated development and demonstration of wind industry technologies to firm up wind generated electricity and operate competitively in what is typically considered lower energy wind resource regimes.

A3. What is the Purpose of this Wind Targeted Solicitation?

The purpose of this Solicitation is to conduct RD&D that will accelerate the development of wind turbine system technologies for operation in lower speed wind resource areas and couple the systems with an intermittency management capability (IMC) that will improve integration and dispatchability of wind energy in the state’s electricity system. California has the largest quantity of installed wind capacity in the nation. However, California only ranks 17th in the availability of high speed wind resource areas. High-energy wind resource areas are typically classified as Class 5 and higher (at 10m) using levels developed by DOE/NREL. Many of the high wind resource areas within the state have been developed over several decades with dedicated transmission infrastructure to connect to the electrical grid. With abundant lower speed wind resources intermixed among rural and farm lands as well as within or adjacent to urban centers, developing cost-effective and reliable lower speed wind generation resources can significantly benefit and meet the special electricity demands of these areas. For example, rural areas electricity users are typically connected at the end of transmission branches and distribution lines. Though there is sufficient land, adding new services or upgrading services in these remote and less populated areas tend to be a lower priority in electricity utility planning. Conversely, heavily populated urban areas are often confronted by severe transmission constraints that cannot be resolved by adding new services locally or upgrading transmission due to land use or public considerations. Development of generation close to demand sources (within 50 to 100 miles) provides additional services at the end of transmission or distribution lines and offers relief to transmission congestion. Incorporating an IMC strategy provides additional benefits to the state’s electricity ratepayers by meeting peak demand hour needs.

Thus, the purpose of this Solicitation is to fund the development and demonstration of lower speed wind generation systems with the potential to increase electricity generation throughout the state (includes rural and urban centers) in ways to help resolve the state’s already constrained electricity infrastructure. By widely dispersing wind generation facilities throughout the state and advancing an intermittency management capability, these renewable systems will provide end-users new options to improve on-site, local demand of electricity in both grid connected and

off-grid configurations with the biggest benefits obtained through grid-connected systems located near urban and rural areas.

(Note: DOE/NREL wind class categories - <http://rredc.nrel.gov/wind/pubs/atlas/tables/A-8T.html>)

A4. Why Target Expanded Wind Resources and IMC for Electricity Generation?

In the summer of 2000, California residents experienced disruptive power outages, rolling blackouts and saw astronomical changes in wholesale electricity prices. Aggravated by the shortage of natural gas, rapid urban development, lack of new generation capacity, the unusually hot summers and cold winters, and an overall de-emphasis on energy efficiency programs, the electricity market restructuring became the most visible culprit of the ensuing energy crisis. Four years later, California ratepayers are still dealing with the repercussions of an unstable and deficient market structure. To shield California from future fuel supply shortages and market volatility, the development of a sound electricity infrastructure that includes a clean, affordable and diversified generation portfolio rich with renewable generation remains one of the best investments for the future.

Existing wind capacity can be found in five geographic areas in the state: Altamont Pass, Tehachapi, San Geronio, Pacheco and Solano areas. These sites are well known high speed wind resource areas (Class 5 and higher) and are generally located in remote, rural locations that required substantial investment and construction of transmission and distribution (T&D) infrastructure over the last two decades. Accounting for less than 0.001% of the total land area within the state, a number of new high speed wind resource areas have been identified for future development. However, in order to become a reality, these sites will require expensive and time-consuming siting and construction of T&D infrastructure. Fortunately, California also has significant untapped lower speed wind resource areas (Class 3 to 4) closer to demand centers and located near urban and rural farm areas with existing T&D capacity. Covering 3 to 5 times more land area as compared to higher wind speed resource areas, expanding into these lower wind resource areas in conjunction with repowering and new developments in high wind speed resource sites could significantly help achieve the accelerated RPS goals set forth in the Energy Action Plan.

Next to large hydro and geothermal, wind generation is one of the principal renewable electricity sources for California, accounting for approximately 1.3% of the electricity used in the state. Representing over 1800 megawatts (MW) of emission and fossil-free electricity for the state, wind-generated electricity will remain an integral and vital component of California's diverse electricity generation portfolio. With rapid project planning, construction and deployment, wind resources are projected to provide the lion's share of the new renewable capacity despite having an intermittent generation profile.

Intermittency is a challenge that may prevent a significant level of penetration by wind generating resources. Though the Energy Commission and industry are evaluating near real-time wind energy forecasting capabilities to improve the scheduling of wind resources into the

generation mix, wind forecasting alone cannot resolve the issue that when the wind stops blowing, wind turbine facilities stop generating electricity. Resolving problems associated with wind's intermittent nature requires industry's participation, innovative solutions and demonstration of system management techniques that increase confidence of grid operators and schedulers who deal with incorporating wind generated electricity. Lower speed wind resources may be more conducive to firming as they generally have more consistent wind profiles throughout the year than higher speed resources. Lower speed wind resource areas may also have higher winds aloft that can be harnessed by turbines designed to operate in both low and high speed wind resource areas. Similarly, local wind resources may be coupled with other generation resources to provide time shifting towards "high value" peaking generation capability. The concept of managing the intermittency with alternatives is not new but is something that has not been actively pursued as part of a complete wind generation package. Innovative solutions exist for intermittency and the goal of this Solicitation is to help realize them.

A5. What is the Scope of Acceptable Projects?

To address California's energy issues and meet RPS goals, RD&D must be directed at meeting California specific needs. Proposals are being solicited to demonstrate the viability and benefits of expanding advanced turbines into lower wind speed resource areas and demonstrating improved compatibility on the grid by incorporating intermittency management capabilities (IMC). In general, proposed projects must integrate technology and prime movers to address the following:

- Increase wind turbine penetration into lower wind speed regimes by:
 - Demonstrating new turbine systems and system technologies that have undergone initial design and development phase
 - Capturing and characterizing the low speed wind resources at a test site and compare profiles to higher speed wind sites presenting anticipated megawatt capacity build-out and generation (kWh)
 - Field testing of turbine systems at a selected Class 3 wind resource site in California
 - Conducting performance tracking and data collection for purposes of future certification or expanded rating
 - Continuing contributions to lowering of costs in the new operating regime: capital cost, installation cost, operation and maintenance cost, and life cycle costs of turbine systems
- Improve the cost competitiveness and affordability of lower speed wind turbine technologies coupled with IMC into electricity systems by:
 - Conducting feasibility and resource assessment of wind coupled with a firming capability (storage, hybrid generation, purchased power) based on resources at a site
 - Evaluating and describing benefits of management methodology and goals, technology tradeoff and cost analysis
 - Demonstrating integration of IMC
- Assure high likelihood of success and market connectedness by:

- Employing an experienced wind project development team capable of implementing successful project deployment in the California market place
 - Having utility involvement and interconnection perspective early on the project
 - Having a clear and timely commercialization pathway with a means of industry integration
 - Developing a complete product concept with overarching goals that are to be achieved when the product is market ready
- Improve the value of wind generation systems to California's electricity system by:
 - Enhancing system reliability, peak load capability, dispatchability, availability, maintainability, durability, usability, and power quality
 - Supporting integration and aggregation of distributed generation and on-site generation with the power grid
 - Improve wind energy systems that enhance environmental and public health benefits by:
 - Improving public health and safety (e.g., CEQA compliance, noise and visual impact mitigation, good faith effort to avoid avian and terrestrial animal impacts, etc.)
 - Reducing environmental impacts by increasing confidence in a fuel-free, emission free reliable wind resource

In light of these considerations, the Energy Commission is particularly interested in developing and demonstrating lower speed wind turbine system technologies in conjunction with intermittency management capabilities in the topics identified below:

Low Speed Wind Turbine System Technologies

- Innovative prime movers and advanced concepts currently not being demonstrated (e.g., extendible rotor blades, flexible rotor/blade technologies, active and passive control etc). Please note that proposals must address benefits of technology other than COE reductions due to advanced power electronics.
- Demonstrate cost-effective electricity production at transfer station.
- RD&D focused on demonstrating economic turbine operation and performance in lower energy, low wind speed areas.

And

Intermittency Management Capabilities

- Innovative coupling of technologies to firm up wind generated electricity or supplement it in ways to reduce the intermittent profile.
- Testing and demonstrating of innovative prime movers (e.g., pumped storage, alternative generation, facility negotiated power purchase for the grid, etc.).
- Steps to increase affordability of integrating IMC as an overall wind turbine management system (e.g., by including co-production of value-added products for storage or backup, increasing efficiencies, smoothing the wind profile, etc.).

Proposed RD&D projects must also furnish a 3-D, scaled-model of the wind turbine to the Energy Commission for display and presentation purposes. Proposals outside the above areas

will also be considered. However, a project must address development and demonstration of reliable, cost-effective lower speed wind resources in conjunction with intermittency management capability. Applicants proposing such projects must describe how the project addresses cost-effective development of lower speed wind resources in conjunction with IMC, other critical electricity issues, the extent of environmental benefits, and a commercialization pathway. In addition, such proposals must fully respond to the requirements of Volume 2, Technical and Cost Information Section of the Application Manual.

Proposed RD&D projects must include hardware development of pilot plants or prototype demonstration units. Feasibility studies and bench scale projects will not be funded under this Solicitation. Applicants who are proposing feasibility studies and bench scale projects should consider applying to the Energy Commission's Energy Innovation Small Grant Program. Similarly, other funding is available to reduce peak load and energy consumption using commercially available technologies through the Energy Commission's Distributed Generation, and Renewable Energy Programs. Information on these programs is available through the Energy Commission's web site (<http://www.energy.ca.gov>).

A6. What are the Targets and Stretch Goals for this Solicitation?

In view of the above scope and focus of this Solicitation, Applicants should use the following Targets and Stretch Goals in developing their project applications. Note that these targets and stretch goals are quantitative.

Table 1. Performance Targets and Stretch Goals for Expanded Wind Regime Turbine Technology and IMC Demonstration Solicitation

Focus Area	Target Parameter	Agreement Target	Stretch Goal
Turbine Component/ System	Wind Regime based on NREL wind class at 10m (W/m^2)	Class 4 at 10m	Class 3 at 10m
	Affordability COE (\$/kWh)	< 0.05	< 0.03
	Installed Cost for Generation Onshore Prime Mover (\$/kW)	< 1,100	< 1,000
	Capacity Factor (%)	> 25%	> 35%
Intermittency Management Capability	Average power (kW)	> 750	> 6000
	Performance Discharge time (hr)	> 2hr	> 6hr
	Recharge time (hr)	< 4hr	< 8hr

	Usage frequency (days/month)	> 20	≈ 30
	Electricity conversion efficiency (%)	> 50%	> 80%
	Capacity Factor with IMC (%)	> 40%	> 50%
	Affordability COE adder (\$/kWh)	< 0.04	< 0.015

A7. How Much Financial Assistance is Available?

The total PIER funding for this Solicitation is anticipated to be up to \$5 million. A single proposal may request no more than \$1.75 million in PIER funding and is anticipated to last 2-3 years. The Energy Commission expects to award 1-3 grants. The Energy Commission reserves the right to augment or reduce these amounts during this Solicitation process.

An Applicant may submit only one proposal per project. However, an Applicant may submit multiple proposals if each proposal is for a different project.

A8. What are the Match Funding Requirements?

Match funding is required to participate in this targeted Solicitation and match funding is evaluated and scored as one of the evaluation criteria. The minimum direct cost sharing required of industry participants will be 50% of total project costs and greater consideration will be given during the evaluation process to proposals that exceed the 50% minimum. Match funds from other public sources will be allowed however a minimum of at least 20% of cost sharing must still come from private sources. Private sources refer to funding from sources other than the federal government, California or other state governments or other governmental entities such as cities and counties.

Care should be taken to provide match funding in amounts proportional to expected private benefits compared to public benefits generated by the program. In other words, projects providing a higher percentage of private benefits and lower percentage of public benefits should contribute a higher percentage of match funds. The ratio of match funding to PIER funding should reflect the ratio of private benefits to public benefits resulting from successful completion of the project. For additional information regarding match funding, see Section III. B4. Section 7., “Project Costs.”

A9. Will this Award be a Grant, Loan or Contract?

All funding through this Solicitation will be provided as grants.

A10. How and When will Funds be Distributed?

Energy Commission funds are paid on a reimbursement basis. Payment will be made approximately 45 days after the Energy Commission receives a properly submitted, undisputed invoice with appropriate status reports indicating appropriate progress. The Energy Commission will retain 10 percent of any payment request or 10 percent of the total Energy Commission award at the end of the project. These retained funds will be released when the Energy Commission Project Manager is satisfied that the terms of the grant agreement have been fulfilled.

A11. How do I Apply and What is the Process?

First, the Program Opportunity Notice and Application Manual for this Targeted Solicitation are released. Then, a pre-proposal conference will be held at the Energy Commission office in Sacramento to respond to Applicants' questions. The Energy Commission will distribute questions and answers received from the pre-proposal conference and post them on the Energy Commission website. Applicants are required to submit a detailed proposal by the due date and time. Energy Commission staff will conduct eligibility, completeness, and feasibility screening of proposals. Proposals that do not pass the eligibility, completeness, and feasibility screening criteria will not advance to the next stage of proposal review, which is the evaluation and scoring phase. The scoring committee will independently evaluate and score proposals. Then the proposals receiving passing scores will be submitted to the Energy Commission's RD&D Committee. The RD&D Committee reviews and recommends to the full Energy Commission how many of these projects to fund, beginning with the highest score (in descending order). The Energy Commission then approves the final grant agreements to the winning Applicants.

Applicants are required to submit as much technical information as they believe is needed to describe their proposed Expanded Wind Regime Turbine and IMC advancements. Applicants are required to provide a copy of turbine and component schematics, along with other supporting documents as outlined in "What is Required in Volume 2- Technical & Cost Information for a Proposal."

A12. Who can Apply to this Solicitation?

This is a targeted Solicitation seeking wind turbine manufacturers and technology developers (Applicants) to be the primary lead for the grant. To be eligible, Applicants must present a team with:

- 1. a demonstrated commercialization capability (i.e. bringing large complex systems/products to market);*

AND

2. *a U.S. base of operation (i.e. manufacturing facility for major components, subassemblies in the U.S. or satellite R&D office which provides economic interest to the U.S.)*

Previous Energy Commission or DOE grant Recipients who have successfully demonstrated expertise and experience with development and testing of full, utility-scale wind generation systems and comply with the above requirements are also encouraged to apply. Both private and public entities may apply for PIER funds. This Solicitation represents a complementary and bridging RD&D effort to the U.S. DOE Low Wind Speed Turbine (LWST) Development Program. Applicants under the LWST who meet the eligibility requirements are encouraged to apply to this Solicitation.

It is the responsibility of the Applicant to organize and manage the RD&D team to fulfill the Solicitation objectives. A minimum recommended team should include prime movers involved in the following areas:

- technology development (i.e., wind turbine technologies R&D, intermittency/storage devices R&D, other renewable generation technologies)
- transmission integration (i.e., utility providers, municipal utilities)
- intermittency integration (i.e., transmission and interconnection technologists)

Teams of subcontractors may also include any or all of the following: individuals, businesses, land and farm owners, developers, and public or private research institutions and laboratories.

A13. Will there be Opportunity to Meet with the Energy Commission about this Solicitation?

Yes, as indicated in the schedule, there will be one Pre-Proposal Conference in Sacramento; participation in the meeting is optional but encouraged.

Current plans are to hold the Pre-Proposal Conference on the date, time, and location listed below. The date, time and location of meeting are subject to change. Please call (916) 654-5129 or refer to the Energy Commission's web site at www.energy.ca.gov to confirm the date and time.

**Sacramento, CA
August 12, 2004 (Thursday)
1:00 p.m. to 3:30 p.m.
California Energy Commission
Hearing Room B, First Floor
1516 Ninth Street
Sacramento, California 95814
PIER Renewables RD&D Office: (916) 654-5129**

A14. How Do I ask Questions about this Solicitation?

During the Solicitation process, questions or clarifications about this Wind Targeted Solicitation must be directed to the Wind Technical Lead as listed below. You may submit written questions up to the day of the Pre-Proposal Conference and you may ask questions at the Pre-Proposal Conference. Questions may be submitted in writing via mail, electronic mail, or FAX. The questions and answers will be mailed to all parties who request a copy of this Application Manual from the Energy Commission Research and Development Office or attend the Pre-Proposal Conference. The questions and answers will also be posted on the Energy Commission's web site at: <http://www.energy.ca.gov/research>

A15. Who Do I Contact for Information Regarding this Solicitation?

DORA YEN-NAKAFUJI
WIND TECHNICAL LEAD/PIER RENEWABLES
Research and Development Office
California Energy Commission
1516 Ninth Street, MS-43
Sacramento, California 95814
Telephone: (916) 653-4128
FAX: (916) 653-6010
E-mail: dyen@energy.state.ca.us

Verbal Communication:

Any verbal communication with an Energy Commission employee concerning this Solicitation is not binding on the State and shall in no way alter a specification, term, or condition of the Application Manual.

B. Questions Related to Proposal Format and Required Documents

This section contains the detailed technical and mandatory proposal format requirements and the approach to be used by the Applicant for the development and presentation of proposal information and data. The format is prescribed to assist the Applicant in meeting State requirements and to enable the Energy Commission to evaluate each proposal uniformly and fairly. Format instructions must be adhered to, all requirements and questions in the Solicitation must be responded to, and all required data must be supplied.

B1. Is there a Limitation in the Proposal Format and Length?

Proposals must be presented in a clear, complete, and concise manner. Volume II and optional Volume III shall be kept to a combined maximum of forty (40) pages of text (not including the required application attachments, Work Statement, budget spreadsheets, and resumes offered by the Applicant). Applicants are required to limit the length of their proposals while adequately covering the proposal requirements.

B2. What is the Required Format for a Proposal?

All proposals that are submitted under this Solicitation must be typed or printed using a standard 11-point font or larger on 8-1/2" x 11" paper, singled-spaced, and contain a blank line between paragraphs. Pages must be numbered and sections must be titled. Pages should be arranged back-to-back with odd-numbered pages on the right. Hardcopies should be bound. Colored photographs and colored graphs are discouraged. Tables and figures should be referenced by number and every page should be numbered sequentially. Cite relevant publications, references and achievements but copies should not be included.

Applicants must submit the bound hardcopies of the original and 10 paper copies of Volume 1, Volume 2, and optional Volume 3.

Applicants must also submit electronic files of the proposal on CD-ROM with clearly labeled contents along with the paper submittal. Electronic files must be in Microsoft Word and Excel formats (compatible with '97 versions or later).

Electronic files submitted via e-mail will not be accepted.

Applicant(s) must organize the proposal as follows:

Volume 1 – Administrative Section
Cover Letter
Application and Project Information Form, Attachment A-1
Project Team List, Key Personnel, Key Subcontractors, Attachment A-2
– Narrative Description of Skill and Experience
– Key Personnel and Key Subcontractors form
– Resumes
Financial Information Form, Attachment A-3 (Private Entities Only)

Volume 2 – Technical and Cost Section
<p>Table of Contents</p> <p>Executive Summary, Attachment A-4</p> <p>Technical Narrative</p> <p> Section 1: Scientific and Technological Baseline, Resource Assessment of Current Technologies, Technical and Economic Feasibility Study with Costs</p> <p> Section 2: Problem Statement</p> <p> Section 3: Project Goals and Objectives Narrative System Performance Characteristics, Targets and Stretch Goals</p> <p> Section 4: Technical Approach and Probability of Success</p> <p> Section 5: Market-Connected Benefits of Successful Completion of the Project and Market Partners</p> <p> Section 6: Work Statement, Attachment A-5 Products, Due Dates and Gantt Chart, Attachment A-6</p> <p> Section 7: Project Costs:</p> <ul style="list-style-type: none"> – PIER Funding Request Narrative – Match Funding Narrative – Need for PIER funding narrative – Project Budget Forms, Attachment A-7: <ul style="list-style-type: none"> ○ Personnel Hourly Rates and Benefits ○ Detailed Task Budgets <p>Miscellaneous (if applicable): Permit List, Attachment A-8</p>
Volume 3 – Confidential Information, if applicable
<p>Confidential Products and Pre-existing Intellectual Property, Attachment A-9</p> <p>Copies of Confidential Submittal</p>

B3. What is Required in Volume 1 - Administrative Information?

The following is a list and brief description of the items (sections) that must be submitted in Volume 1 of each proposal. Applicants should carefully read this format and content information (along with the eligibility, completeness and feasibility criteria, and the evaluation criteria presented subsequently) to understand the relative importance of the information being requested in the proposal. The following items must be included or the proposal will fail the completeness screening and will be rejected prior to technical evaluations.

1. Cover Letter

The Applicant must submit a cover letter on company letterhead signed by a person who has the authority to bind the Applicant to a grant agreement for the proposed work.

2. Application and Project Information Form

Complete the Application and Project Information Form (Attachment A-1). Have a person who is authorized to sign the grant agreement for your company sign the original of this form as the “Authorized Official.” Note that this form requires submittal of Articles of Incorporation, Partnership Agreement, and Fictitious Name Filing where appropriate.

3. Skills and Experience

Project Team Narrative

Name the Project Director who will be the Grant Award Recipient’s person primarily responsible for coordinating and managing the proposed project and describe each of the following:

- The Project Director’s capabilities and experiences in managing successful wind development and demonstration of RD&D projects.
- The Project Director’s experience in bringing wind energy systems or comparable complex systems successfully to the marketplace.
- The process the Project Director will take to effectively manage the proposed project to achieve project objectives and goals, including ensuring the development of quality products within the allocated budget and schedule.
- How the Project Director will monitor progress and develop recommendations for adjusting the research direction and focus based upon the results of research.

Describe the capabilities and experience of the proposed project team:

- Identify the key RD&D personnel of the Recipient, key subcontractors, and key personnel of the key subcontractors.
- Describe the capabilities of the team members to conduct the technical work proposed, administer the research process, control costs, maintain project schedule, and if applicable, move the products into the marketplace, with reference to past experiences.
- Describe how the project team is uniquely or unusually well qualified to perform the proposed effort.
- Describe any key industry partners necessary to ensure project success and to move the development of low speed wind systems successfully into the California electricity markets.

Project Team List, Key Personnel and Key Subcontractors

List Recipient’s key personnel, subcontractor’s key personnel and key subcontractors in the project, on Application Manual Attachment A-2.

Briefly, “keys” are those individuals or subcontractors/vendors who would be difficult to replace and could impact the project progress/outcome. The Energy Commission has approval rights if replacing these individuals or subcontractor/vendors.

Resumes

Provide resumes for the Project Director, the task leaders, key project team members and key subcontractors. Emphasize individual accomplishments in the resumes relevant to the proposed project.

Financial Information

Private entities must complete the Financial Information Form (Attachment A-3). Submit requested copies of documents and financial statements. A financial review will be conducted as part of the review process to assess the Applicant’s ability to provide match funding and successfully complete the project.

B4. What is Required in Volume 2 – Technical and Cost Information?

The technical merit of the proposal will be evaluated and scored on the Applicant’s submittal in the Technical and Cost Section of the Proposal. The Applicant is responsible for submitting a technically complete and responsive proposal, and for presenting compelling and convincing evidence that the proposal is worthy of PIER funding. In scoring the proposal, the Energy Commission evaluation team will *NOT* depend upon its prior detailed knowledge of expanded wind turbine system technological status, intermittency management technological status (e.g. storage, SMES, batteries, pumped hydro, hybrid generation, etc), issues and markets, or any prior work that the Applicant has done for the Energy Commission. Therefore, the Technical and Cost Section of the Proposal should be complete but clear and concise and should address the submittal requirements completely.

The Applicant can assume that proposal evaluators are familiar with the electricity supply and demand situation in California, natural gas supply issues, wind issues, electric utility restructuring, proceedings before the Energy Commission and the California Public Utilities Commission related to: wind systems, avian issues, renewable distributed generation and interconnection, and interconnection issues and standards development. Therefore, the Applicant should not discuss issues such as the potential for wind systems to be used as Distributed Energy Resources (DER) and the roles that DER can serve in terms of system reliability and electricity supply, unless such discussions are critical to an understanding of the scope of the proposal’s work statement. The Applicant’s discussions should always focus on the proposed project and expected results.

Applicants who believe that supporting documentation beyond that requested for Volume 2 is needed and will improve their technical score may attach such information in appendices to their proposal but must not exceed the maximum (40 pages) proposal limit. Appendices are appropriate for items such as description of work being done by the project team on related

projects, the Applicant's quality control and quality assurance plans and procedures, calculations of public and private benefits and associated discussions, calculations of performance enhancements resulting from successful completion of proposed work, calculations of cost reductions resulting from successful completion of the proposed work effort, and copies of team publications relevant to the proposed work. Any item submitted in an Appendix should begin with a summary of the relevance of that item to the proposal and the evaluation criterion to which it applies.

Volume 2 must contain the technical and cost information that responds to the Solicitation, and with the exception noted below, should be presented in the order listed below. There must be a Table of Contents, with page numbers for each section, and an executive summary before Section 1. The sections in Volume 2 are organized into two groups, Sections 1 through 5, and Sections 6 through 7.

The purpose of the Technical Narrative (Sections 1-5) is for the Applicant to provide a compelling narrative or "story" that justifies PIER funding of the proposed project. The Applicant should demonstrate a clear understanding of the state-of-the-art of the technology, the goals and objectives of the project, the niche filled by the proposed project in ongoing technical developments, the technical and economic feasibility and significance of the results to be derived from successful completion of the project, resource assessment, market needs and economics, the way in which these results will be accepted in the marketplace, and the public benefits to be derived by California electricity ratepayers. We have divided this "story" into the following topics:

Section 1. Scientific and Technological Baseline

- Resource Assessment and IMC technologies
- Technical and Economic Feasibility Studies, Tradeoff and Benefits
- Transmission and Utility Integration Issues in General, for the Region and Site

Section 2. Problem Statement

Section 3. Project Goals and Objectives

Section 4. Technical Approach and Probability of Success

Section 5. Market-Connected Benefits of Successful Completion of the Project.

The boundaries among the above topics may be somewhat arbitrary. There is no need to repeat information from one topic to the next. If rearranging the order of two or three of the above topics helps to present your project in a logical fashion, then that is acceptable.

The second group of topics describes the specific details of the Applicant's proposed RD&D project, and must be presented in the following numerical order:

Section 6. Work Statement and Products, Due Dates and Gantt Chart

Section 7. Project Costs, PIER Funding Request, Match Funding, the Need for PIER Funding and project budget forms

Below is a detailed description of the information the Applicant should present in the executive summary and Sections 1 through 7 of Volume 2.

Executive Summary (Attachment A-4)

Prepare an Executive Summary of the project, no longer than two [2] pages, which describes in summary form:

- The problem, barrier, or deficiency, amenable to an RD&D solution, that the proposed project will address in relationship to other current work in the field
- Proposed turbine and IMC technology or science being developed and advanced
- General description of wind resources/regime to be utilized in the proposed demonstration and resource assessment
- Technical and economic feasibility studies
- Market needs and assessment
- The unique products, services, or levels of understanding that are expected to result from the project
- The technical approach and project steps that explain what will be done and how it will be done
- The quantitative goals and objectives of the project
- The overall project cost
- The amount of PIER funding being requested
- The amount, sources, and nature of match funding (note limitations on match funding Section III. A8. “Match Funding Requirement”)
- The types, estimated amounts, and timing of public benefits to be provided in California if the project is successful and if the results are incorporated into commercial products. California public benefits include, but are not limited to, the annual amount of energy to be saved, cost competitiveness, the amount of electrical power price reduction expected, reduction in environmental impacts, such as the tons per year of pollutants reduced, market penetration levels, the installed capacity of wind and prime movers in a specified future year, and/or the degree to which system reliability, dispatchability, maintainability, usability, flexibility, or power quality is enhanced.
- Estimated amounts of additional time and spending, if any, required to realize the public benefits that are being claimed for this project. Identify the types of entities that would be involved in these additional efforts.

Technical Narrative

Section 1. Scientific and Technological Baseline

Describe the scientific and technological baseline, that is, the current state-of-the-art or the developmental status of the subject technology to be advanced. Relate the developmental status of the subject technology to the performance of lower speed wind turbine and IMC technologies and to the relevant performance targets and stretch goals in Section III, Table 1.

Identify entities engaged in development of the subject technology. If no one else is performing any related development work, state that explicitly and reasons why you believe work is warranted in this area. Identify whether or not the proposed project duplicates or overlaps other ongoing RD&D.

Emphasize past advances that the Applicant's team has made in areas relevant to the proposed work. Describe Applicant's relevant work, accomplishments, failures, ongoing work, RD&D projects, funding levels, and funding sources. Be quantitative and rigorous in the discussion. List research papers, conference papers and presentations with full references, and summarize significant accomplishments that have been reported.

Within the technological baseline discussion, it may be advantageous for the Applicant to discuss the status of the technologies in general in order to put the proposed work within the context of generating system development. The discussion could include factors such as developers and manufacturers, development status (whether laboratory scale, alpha testing, beta testing, commercially available), performance characteristics and tradeoffs (efficiency, lifetime, emissions and other environmental characteristics including footprint and land requirement), manufacturing cost and selling price, and operation and maintenance costs.

Resource and market assessments and the technical and economic feasibility study of the proposed technologies should be included in this section. Resource assessments should include calculation and discussion of the feasibility of the wind resources that will be used for the proposed project in a proposed location or site.

The scientific and technological baseline described here must facilitate the evaluation of the proposed RD&D effort. That is, there must be continuity between the current status of the subject technology and the proposed effort.

Section 2. Problem Statement

Describe the deficiencies that exist for the subject technology. The deficiencies should illuminate the question of *why* the proposed project should be done.

Identify and discuss the principal barriers, key unresolved issues, and knowledge gaps that hinder the development and widespread use of lower speed wind systems and IMC in

California that your proposal addresses. Barriers may be grouped under the following categories or other categories that the Applicant deems appropriate:

- Scientific and technological – such as insufficient scientific understanding of relevant biochemical phenomena and processes, inadequate materials, high cost of materials, poor durability, low reliability, low power density, low energy density, lack of detailed engineering designs and design trade-off analyses, inadequate component development, high cost of fabrication techniques, lack of automated manufacturing, insufficient field testing, or insufficient field demonstrations.
- Market – such as inadequate consumer knowledge or limited system supply and maintenance infrastructure. (Note: This Solicitation does not seek and will not fund proposals for market research, technical and economic feasibility study, resource assessment, consumer education, commercialization, or market conditioning activities.)
- Institutional – such as regulatory hurdles (e.g., atmospheric emission limitations, lack of tax incentives, land use requirements, transmission constraints, regulatory acceptance, etc.) or lack of adopted interconnection standards.
- Environmental – such as NOx emissions above those set by Air Resources Boards or Districts within California, avian and terrestrial animal impact, excessive noise, or other resource consumptions.

Explain why these barriers have not been addressed by the marketplace or by other institutions.

Explain why the barriers should be addressed at this time. For example, place the proposed work into the context of the spectrum of barriers that these systems face regarding widespread deployment, adoption, acceptance and market penetration. Identify if possible the sources of these barriers. Discuss any perspectives on issues that are of particular importance and that are addressed by your proposal. Be succinct and as quantitative as possible.

Section 3. Project Goals and Objectives

At the beginning of this section, complete the following sentences. Please be succinct.

Overall Project Goal

The overall goal of this project is to...(Complete the sentence with a brief description of the goal(s). Goals can be technical, economic or social. Please be brief, two to three sentences maximum.)

This project meets the PIER Goal of <pick primary one from the list below> by <fill in the blank>. (If applicable, this project also meets the secondary goal(s) of <pick all that apply from the list below> by <fill in the blank>.)

PIER Goals

1. Improving the Energy Cost/Value of California's Electricity
2. Improving the Environmental and Public Health Costs/Risk of California's Electricity
3. Improving the Reliability/Quality of California's Electricity
4. Improving the Safety of California's Electricity

Technical and Economic Performance Objectives

Clearly and quantitatively specify technical, economic and/or environmental goals for the project/product. Note that goals are to be linked to the benefits in a way that enables the team to provide overall estimates of the benefits if the product successfully penetrates the marketplace. Goals should also be related back to the critical issues being addressed.

The technical performance objectives of this project are to...*(Complete this sentence with the technical objectives, which are things that will be measurable or knowable at the end of this project. Applicants should determine technical performance measures that are applicable to their projects).*

The economic performance objectives of this project are to...*(Complete this sentence with the economic objectives, which are things that will be measurable or knowable at the end of this project. Applicants should determine economic performance measures that are applicable to their projects).*

Provide factual baseline performance and cost data for current technologies and systems. Examples of Technical and Economic Performance Measures:

- . . .reduce the cost of electricity generation (or supply) by ____%.
- . . .increase the number of new technologies that are market-ready by ____<fill in the number>.
- . . . increase the adoption by the market of specific technologies by ____%.
- . . . increase the renewable technologies that are cost competitive by ____%.
- . . . increase the new energy systems that can use multiple fuels by ____%.
- . . . decrease end-use consumption in specific energy sectors by ____%.
- . . . decrease the new energy system impacts over current best practices by ____%.
- . . .increase the number of market-ready technologies that contribute to reduced risks of increased environmental/health impacts by ____<fill in the number>.
- . . .reduce the interruption frequency and duration per customer type per year by ____<fill in the number>.
- . . .increase the expected number of new technologies providing increased reliability/quality choices to consumers by ____<fill in the number>.
- . . .decrease the rates of injury and fatality associated with electricity generation/supply and usage by ____<fill in the number>.
- . . .determine the effectiveness of the XYZ process.

After completing the sentences above, discuss how and to what degree your proposed project contributes to realizing the targets and stretch goals, or other significant contributions leading to system improvement and market introduction and penetration in California. The targets and stretch goals for this Solicitation are given in Table 1, Section III.

As a hypothetical example of meeting other significant goals, your project may not be able to reach a Solicitation capital cost target of \$1100/kW for an expanded wind regime system coupled with IMC by 2008, but your project may be able to reach a capital cost of \$1500/kW by 2006. If this higher capital cost provides an improvement over the baseline technology, your project might offer public benefits equal to or greater than those offered by another proposed project that claims the ability to reach the hypothetical \$1000/kW cost target, but several years later.

Proposals for IMC projects must discuss the tradeoffs that must be made in achieving improvements in one performance parameter while compromising improvements in one or more other parameters. Discussion must also include technology fit to the local area resources and electricity usage or demand needs (regional or local area benefits).

If your project incorporates other generation technologies (such as solar, combined heat and power systems), identify the sources and market applications. Discuss the match between wind system, IMC and thermal/electrical outputs of the combined technology system with the load profiles of the expected end use sites. Show needed calculations for expected performance efficiencies.

List and describe the technical or economic performance goals (improvements in technology or the state of knowledge that can be measured and quantified) for your proposed project. Your goals must be quantitative, verifiable and measurable by physical observation or testing. If the improvements that your project will make are not amenable to measurement, surrogate performance metrics that can be measured must be given. Describe the methodology or procedure that will be used at the completion of the project to determine if the goals or performance metrics have been achieved.

List and describe the technical or economic objectives—desired conditions outside the project itself that will result from the success of the project.

Section 4. Technical Approach and Probability of Success

Explain how the proposed work extends or complements prior RD&D. That is, continue the discussion given under “Scientific and Technological Baseline.” Explain how and why the proposed RD&D are the next and necessary step.

Succinctly state the specific advances in science and technology that the proposed project will achieve, if successful. Include a clear discussion of where the team is in the overall development of the project/product (include timeline for product development).

Show how a successful project will make a significant difference in the status of the subject technology. Explain the manner in which, and the degree to which (be quantitative), the proposed effort will address and resolve the principal barriers, issues, and knowledge gaps described in the Problem Statement.

Describe any proprietary market or technical information—not currently under your control or to be developed as part of this project—which will be necessary to complete the project. If such information is necessary, describe how it will be obtained. Describe any unresolved intellectual property issues.

Describe the level of risk associated with the project. Discuss the probability that the project will achieve its goals and objectives and that science and technology will be advanced. Discuss the technical viability of the proposed effort.

After answering the previous questions in this section, describe your technical approach. For the project as a whole and for each technical task, present the nature of the work that will be done, the underlying technical considerations, and the technical merit of the proposed project. Explain how scientific and engineering principles will be applied in order to achieve the proposed project's objectives and goals. Identify and describe any innovative or distinctive features of the approach. Explain why any innovative approach is expected to be more successful than prior approaches. Assess risks or potential problems that could prevent the task from being completed on time and on budget. Present alternative contingency approaches where appropriate. Please use the following format, which parallels the task listings in the work statement. *This is the place for the details behind and the rationale for your proposed activities.* In contrast, the work statement is the place for the essential elements (step-by-step) of the process you will use to complete the project.

Technical Approach

Overview of Tasks

Task 2.1 (*Descriptive Name*)

Task 2.2 (*Descriptive Name*)

Task 2.3 – 2.n (*Descriptive Name*)

Section 5. Market-Connected Benefits of Successful Completion of the Project

A key objective of the PIER program is to develop energy products or services that are connected to the market, that is, those that will be installed so that they can produce public benefits for California's electricity ratepayers. Through this Solicitation, the Energy Commission is seeking worthy, fully integrated, state of the art, almost market-ready expanded wind regime turbine technologies and IMC for utility-scale and distributed generation applications capable of providing market-connected benefits to California's electricity ratepayers.

Your discussion of market-connected benefits should be limited to less than two pages; we are not requesting an exhaustive market study. However, if a market study already exists, and is particularly relevant, please provide its reference.

Describe the expected outcomes—the effects on related industry stakeholder communities—if your proposed wind turbine and IMC RD&D project is successful. Identify the beneficiaries and users of the scientific or technological knowledge expected to be gained.

Assume that your project is successful. Describe a plausible scenario leading to commercial introduction of an economically viable wind coupled with IMC generating system/approach. Estimate the time and expense required to reach this point. Estimate the timeframe under which the economic benefits will accrue. Describe any additional activities, beyond those in the Work Statement, that must be taken to achieve these benefits. State any assumptions made in estimating the benefits, and justify the bases for the assumptions.

This discussion should:

- (1) Identify the specific market(s) for products or services resulting from the RD&D efforts,
- (2) Estimate the size of that market, and how much of that market exists in California,
- (3) Provide an overview of the pathway(s) by which such products or services will ultimately enter the marketplace,
- (4) Identify infrastructure changes necessary for commercialization including changes to regulations (environmental, safety, permitting, transmission, industry models),
- (5) Identify people or entities that can aid in facilitating market entry, and
- (6) Describe important incentives these entities will have to commercialize the product.

Demonstration projects should be closely connected to the market. Since your project is for a demonstration or test of a complete wind turbine electricity generating system, clearly identify the market segments (agricultural, residential, commercial, industrial by SIC codes) and service (ancillary services, baseload, peaking, back-up) being targeted. Discuss the match between the output and duty cycle of the generating system and the host load.

Based on the market(s) that you believe will use the results of your successful project, estimate the public and private benefits that will accrue. Categories of benefits include but are not limited to, improved emissions, improved fuel conversion efficiency, reduced cost of manufacturing, and more reliable and durable components. The benefits must derive from the project objectives and goals and be limited to the markets you expect to reach.

Distinguish between the public benefits (especially those to the California electricity ratepayer) of the proposed project, and the private benefits, including those to the Applicant. Apportion benefits between the public and private sectors. Compelling arguments justifying the apportionment should be made if most of the benefits are claimed to be public.

Describe any expected ideas which will have potential patent application.

Depending on the generation technology, note that effective January 1, 2003, all distributed (electricity) generation technologies in California shall be either (1) certified for use by the California Air Resources Board (CARB) and exempted from district permitting requirements, or (2) permitted by a district. Emissions shall be made equivalent to the level determined by CARB to be the best available control technology for permitted central station power plants in California (SB 1298 1999-2000 Session [Bowen], Health and Safety Code Sections 41514.9 and 41514.10). If any portion of your project results will not meet these emission requirements, discuss why non-conformance of the system being developed is appropriate.

Section 6. Work Statement, Products, Due Dates and Gantt Chart

Project Work Statement

Applicant should follow the prescribed work statement format and instructions in this Solicitation (Attachment A-5). The Work Statement shall:

- Be consistent with the proposal's problem statement, objectives, goals and technical approach.
- Contain appropriate detail and clarity to be incorporated directly into a grant agreement.
- Contain a logical sequence of tasks.
- Contain list of products appropriate to each task.
- Contain a timeline connecting current work to Applicant's projected market/development vision.

Within the work statement, the work effort should be divided into a series of logical, discrete and sequential tasks. Instructions and examples for the technical tasks are provided in the Work Statement template (Attachment A-5). Task 1 is reserved for Administrative Tasks related to project start-up, meetings, status reports, final reports and draft reports and outlines. Technical tasks are found in Task 2 of the Work Statement and start with the number 2.1. Applicants must use the task format as described in Attachment A-5.

Details to Include in Task Descriptions:

- Successful completion of this task will be measured by...*(Complete the sentence by listing the performance measure(s) or other criteria that will be used to evaluate the results and to determine to what degree the goal was achieved.)*
- Meeting this goal helps to achieve the project objectives by... *(Complete the sentence.)*
- A description of each work task in the order in which you expect the work to be done. Applicant should not simply propose to perform the work but should outline the actual work to be performed in as much detail as possible. Follow instructions

and examples shown and refer to the work statement template contained in the Application Manual Attachment A-5.

- For project demonstration and testing, one of the tasks must be the development and execution of a Test Plan. The Test Plan should include considerations such as the number of hours of operation, load, fatigue or life cycle testing schedule, type and description of monitoring/measurements to be performed, instrument calibration and experimental setup, methodology in which data will be analyzed and reported, and a Quality Control and Quality Assurance Plan to assure data validity and uncertainty. A Critical Project Review generally will be conducted at the conclusion of this task and prior to hardware testing.
- If your project is for a demonstration and if the demonstration is to be grid-connected, or will develop hardware for grid-connected applications, discuss the degree to which the demonstration will comply with both Supplemental Recommendation Regarding Distributed Generation Interconnection Rules P700-00-014, and Distributed Resources Interconnected with Electric Power Systems, Institute of Electrical and Electronics Engineers (IEEE) Publication P1547 (available at www.ieeeusa.org).
- If your project plans for the pre-commercial demonstration of a generating system, pre-installation system testing by the manufacturer or system integrator must be one of the tasks.
- A Technology Transfer Plan is required. The objective of the plan is to make the knowledge gained, experimental results, and lessons learned readily available to decision-makers. The plan must explain how the products from the other tasks will be distributed and how it will be made available to the public. The level of detail expected is least for research-related projects and highest for demonstration projects.
- A Production Readiness Plan is required. Projects are anticipated to lead to the mass manufacturing of developed hardware within the next five years and should include a task addressing production readiness. The Production Readiness Plan must consider the following:
 - a. Identification of critical production processes, equipment, facilities, deployment, personnel resources, and support systems that will be needed to produce a commercially viable product.
 - b. Internal manufacturing facilities, as well as supplier technologies, capacity constraints imposed by the design under consideration, identification of design critical elements and the use of hazardous or non-recyclable materials. The product manufacturing effort may include “proof of production processes.”
 - c. A projected “should cost” for the product when in production.
 - d. The expected investment threshold to launch the commercial product.
 - e. An implementation plan to ramp up to full production.

The degree of detail in the Production Readiness Plan discussion must be proportional to the complexity of producing the proposed product and its state of development. Applicants who wish to use PIER funds to optimize more complex production manufacturing processes, or have manufacturing processes closer to being market ready, will be expected to provide a higher degree of detail on the manufacturing process than Applicants whose manufacturing process is relatively simple or relatively far from being market ready.

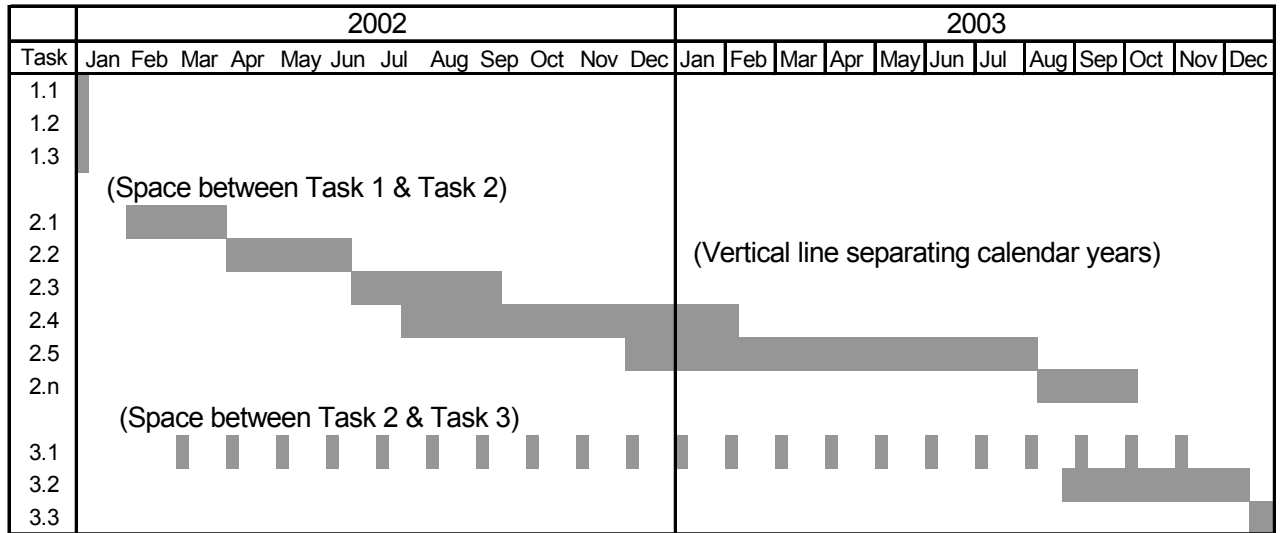
Products, Due Dates and Gantt Chart

Complete Application Manual Attachment A-6, Products, Due Dates and Gantt Chart. This attachment contains two spreadsheets: 1) Products and 2) a Gantt chart. Enter all of your task numbers first then enter task names. Entering information in this manner will properly link the spreadsheets. Next, enter the products in the order they appear in the Application Manual Attachment A-5, Work Statement, using the list of products from each task. Use one line for each product. Note that the spreadsheet contains Critical Project Reviews (CPR) shown as examples in two tasks. Put the CPRs where they belong in your project. Products that will be discussed at the CPR should appear before the review and their final versions should appear after. Plan for a minimum of one CPR a year.

The second spreadsheet contains a Gantt Chart, showing the overall summary of the project schedule. The purpose of the Gantt chart is to visually display the time frames of the tasks in this project. Each chart shall contain the following common characteristics:

- The task numbers in the first column should be transferred automatically to the Gantt Chart.
- Maintain blank rows between Task 1, Task 2 and Task 3.
- Modify the years to meet the time frame for your project. The template contains the maximum of 4 years. Separate each calendar year with a vertical line.
- The months are set up in 1/4-month increments so that your schedule can be accurate to the nearest week.
- Select the beginning month and year based on the expected start date for your project given the schedule for this Solicitation. Select the end-date based on the schedule for your project
- Task 1 contains administrative tasks required by the Energy Commission. Tasks identified under Task 1 should not be modified. You may add or delete rows as needed starting with Task 2.
- Shade the areas representing the time frame for each task. The shading has been preset at gray 40%.
- The chart has been preset to print as a single landscape sheet.

An example Gantt Chart:



Note: It does not matter whether the Gantt Chart is created in Microsoft Excel or Microsoft Project. However, it must fit on one 8 1/2 x 11 page.

Section 7. Project Costs

Complete Application Manual Attachment A-7 for both Task Budget and Category Budget.

In a narrative but quantitative and definitive manner, discuss:

- The appropriateness of the total project cost considering the scope of work and the relevant expertise of the Project Team.
- The appropriateness of the amount of PIER funding requested for the project considering the anticipated absolute and proportional public benefits to California electric ratepayers.
- The amount of match funding that will be brought to this project. Discuss the appropriateness of the level of match funding considering the estimated and anticipated level of private benefits. Describe the nature of the match funding being offered by the Applicant and subcontractors.
- Why PIER funding for the project is required—that is, why this project cannot be funded within competitive or regulated markets. Potentially valid reasons for PIER funding include high risk/reward concerns, high financial cost, or the non-exclusive nature of the project results, which would result in financial gain for others rather than for the Applicant. Defend your reason.

Projects that have results are more likely to lead to products and services that can be commercialized in the near future will generally need a higher percentage of matching funds than projects whose results are further removed in time from commercialization.

Describe any extra value that the Applicant provides. For example, concisely explain how previous and current work by the Applicant, patents and patent applications, proprietary information, databases, unique facilities, specialized equipment, or specialized expertise will be leveraged into the proposed work.

Acceptable and Non-Acceptable Sources of Match Funding

Discuss the sources of match funding CONTRIBUTED FOR USE IN THE ENERGY COMMISSION'S PROJECT. For example, Applicant and/or team members, project partners, investors, lenders, equipment manufacturers, utilities, universities, government entities or others. Discuss whether match funding is in cash or in-kind services. In-kind contributions include donated labor hours, equipment or facilities.

Staff time, laboratory space, equipment, and most property can count as match funds if they are fully dedicated to the project for the time the property or equipment is required by the agreement, and if the value of the contribution is based on documented market values or book values and is depreciated or amortized over the term of the project using generally accepted accounting practices.

Property and equipment that do not qualify as match funds include such items as standard office supplies and property or equipment that is part of the Applicant's normal business activity (desks, typewriters, telephones, computers, software, etc.).

All match fund expenditures must occur within the grant term. In all cases, the Energy Commission reserves the right to review and approve or disapprove the crediting of contributions and the amounts of those contributions as match funding.

Prior investments in the project do not qualify as match funds. Funding from other Energy Commission projects, grants or contracts does not qualify as match funding. The sources and amounts of match funding must be identified in the Applicant's budget.

Proposed match funding must be spent concurrently with PIER Program funds, and only on the project elements described in the proposal. Match funds can be spent once the Energy Commission has approved an awarded grant at a scheduled Business Meeting. However, PIER funds cannot be spent until the grant agreement is fully executed.

Permit List

Applicants are responsible for complying with permit requirements and any CEQA related filings for completion of the demonstration project. Costs incurred are not reimbursable under the PIER grant funds but may be listed as match funding by Applicant. Attachment A-8 is provided for listing of any or all existing or anticipated permits.

B5. What can I put in Volume 3 – Confidential Information and Pre-existing Intellectual Property?

Applicants are discouraged from submitting any confidential information regarding their proposed project under this Solicitation. However, if the Applicant believes that certain confidential information would be important for the scoring committee to consider, or would clarify the status of the development of the technology prior to any awarded grant (i.e., benchmarking for royalty purposes), Applicants may submit such specifically requested and identified confidential information as a *separate volume* to the Energy Commission. Include at the beginning of this volume the Confidential Products and Pre-existing Intellectual Property form, Solicitation Attachment A-9.

The Confidential Volume 3 must be packaged and sealed separately from the non-confidential Volumes 1 and 2. Volume 3 must accompany Volumes 1 and 2, must be clearly marked “Confidential Information for Targeted Wind Solicitation for Expanded Wind Regime Turbine Technology and Intermittency Management Demonstration”, and must include the Applicant’s name and the project title. The Energy Commission in accordance with the confidentiality regulations contained in Title 20, California Code of Regulations, Sections 2501-2505, will determine confidentiality.

The Energy Commission will not accept or retain any proposals that are submitted entirely in confidence. However, all proposals will be kept confidential until the Notice of Proposed Awards is posted.

B6. What Types of Information Are Considered Confidential?

Consistent with the Energy Commission’s confidentiality regulations (20 CCR 2501 et. seq.) and the California Public Records Act (Government Code Section 6250 et. seq.), the Energy Commission generally will grant confidential treatment for information that is essential to understanding the proposal, clarifies the status of technology prior to project work, or will be a product. Examples include:

- Any information that is patent pending (until a patent has been approved), including patent application numbers
- Technical trade secrets (e.g., detailed technical drawings)
- Marketing/business trade secrets (e.g., energy use data for an individual commercial or industrial facility, pending strategic partnerships with manufacturers)
- Economic/financial trade secrets (e.g., income tax records).

Conversely, the Energy Commission generally will not allow confidential treatment for certain other types of information. Applicants are cautioned against seeking confidentiality for the following types of information:

- Project descriptions/work statements (including task descriptions, schedule of products and due dates)
- Proposed project budgets (PIER and match fund), including labor rates
- Names of employees, subcontractors and match fund participants
- Test plans and reports

- Progress reports
- Final reports.

The Energy Commission will allow technical and business trade secrets to be reported in separate confidential addenda to test reports and final reports.

B7. How is Confidential Information Treated?

From the beginning of the Solicitation process until the evaluation is complete and the Notice of Proposed awards is posted, the Energy Commission is required to hold all information received from Applicants as confidential. However, proposals and all submittals will become public record after the Energy Commission completes the evaluation and/or scoring process and the Notice of Proposed Awards is posted.

After the posting of awards,

- Confidential materials submitted by unsuccessful Applicants will be destroyed and/or returned. The Energy Commission will not retain confidential submittals from unsuccessful Applicants.
- Confidential materials submitted by successful Applicants will be kept confidential, pending incorporation of confidentiality determination as part of the subsequent PIER grant as appropriate.

A complete application for confidentiality pursuant to Title 20, California Code of Regulations, sections 2505(a) and 2505(c)(2)(A) may be required prior to Energy Commission approval of the grant. These confidentiality specifications and procedures are issued in accordance with Title 20, California Code of Regulations, section 2505(c)(2)(A).

C. Questions Related to Evaluation Process and Scoring Criteria

This section explains the overall evaluation process and the technical and policy evaluation criteria. It describes how the proposals will be evaluated for completeness, eligibility and fundamental scientific feasibility. It also describes the evaluation stages, and scoring of all proposals.

The entire evaluation process from receipt of proposals to the posting of the Notice of Proposed Award is confidential.

An Applicant's proposal will be evaluated and scored based on its response to the information requested in this Solicitation. During the evaluation and selection process, the Energy Commission may interview Applicants either by telephone or in person at the Energy Commission, and/or conduct a site visit at the Applicant's facilities for the purpose of clarification and verification of information provided in the proposal. However, these interviews may not be used to change or add to the contents of the original proposal.

C1. What is the Proposal Screening Process?

Administrative, Completeness, Eligibility, and Feasibility Screening

All proposals will be initially screened for administrative, completeness, eligibility, and fundamental scientific feasibility. Proposals that fail the administrative, completeness, eligibility, and feasibility screening will not be evaluated further under this Solicitation.

1. Administrative Screening

If your proposal fails any of these items, it will be rejected immediately:

- The proposal must not exceed the specified allotment for a single project (\$1.75 million) as described in Section III. Any proposal requesting more than the \$1.75 million will be rejected and not evaluated further.
- The proposal must be for a low speed wind turbine system development and demonstration project in state and have an intermittency management capability that relies upon commercially available generation systems that is in compliance with all California state regulations and permits for operation. Any proposal requesting funds to research and develop new hybrid generation systems will be rejected and not evaluated.
- The proposal must clearly identify a low speed wind resource area that satisfies programmatic factors as identified in Section III – Scope of Project and that will benefit from the development of low speed wind resources. Additionally the proposal must quantify benefits to state's electricity ratepayers as result of the work performed.

- The original proposal plus 10 bound copies and electronic files on CD-ROM must be received at the Energy Commission Grants and Loans Office by the time and date indicated in Section III. Late proposals will be rejected.
- The proposal must not be marked confidential in its entirety. Proposals that are marked confidential in their entirety will be rejected from further evaluation under this Solicitation.

2. Completeness Screening

A proposal must include the contents described in Section III B, Application Manual Attachments and Forms or the proposal will fail the completeness screening and will be rejected prior to the technical evaluations. In particular, proposals will be screened for completeness on the basis of whether or not the proposal contains sufficient information to enable a useful evaluation to be conducted.

3. Eligibility Screening

To be eligible for possible funding under this Solicitation, proposed projects must meet all of the following eligibility criteria:

- The project must address all of the goals identified in Table 1 of Section III.
- The project team must have a demonstrated track record for developing and demonstration of wind energy systems or comparable complex systems and bringing the product to the marketplace.
- The project must contain a discussion that clearly identifies how the proposed low speed wind turbine demonstration and IMC based RD&D activities will advance wind generated technologies and penetration into the electricity market.
- Each proposal must be limited to a single, specific project. Individual proposals that request funding for multiple projects are not eligible for this Solicitation, and will be rejected from further evaluation. The Energy Commission has full discretion to determine whether a proposal is for a “project” (and therefore eligible for this Solicitation) or a “program” (and therefore not eligible for this Solicitation). An Applicant may submit separate proposals for different projects.
- Pertaining to the completion of the project, the Applicant must not be a party to any claim or lawsuit alleging breach of contract, misrepresentation, and/or frauds, liens or judgments that clearly jeopardize completion of the project.

4. Feasibility Screening

Proposals will be evaluated for fundamental feasibility on the basis of whether the proposed project appears to comply with sound scientific principles, technical and market viability and commercialization potential and feasibility and if not, whether the proposal contains a sufficiently sound explanation to justify proceeding with a further evaluation.

C2. How will Proposals be scored?

Overview of the Evaluation Scoring Process

All proposals that pass the Completeness, Eligibility and Feasibility Screening will be further evaluated and scored for merit. The Energy Commission may use Energy Commission staff, staff of other agencies, private consultants or other designated representatives of the State to evaluate the proposals. All proposal evaluators and scorers will keep the contents of the proposals confidential. The technical, financial and policy merits of each proposal will be evaluated.

An Energy Commission Scoring Committee will evaluate and score proposals according to the evaluation criteria below. Eligible proposals will be ranked in descending order based upon total score. All proposals receiving a weighted score of one hundred five (105) points or more out of a maximum 150 total points will be considered for possible funding. The Energy Commission's RD&D Policy Committee will recommend how far down the ranked list of proposals scoring one hundred five (105) points or higher will receive awards. The Committee's recommendations are presented at an Energy Commission Business Meeting and can be approved as recommended, or the Energy Commission can adjust the cut-off lines higher or lower in the ranking.

Projects above the Energy Commission's adopted cut-off line cannot be "skipped-over" for funding. That is, a project with a higher score cannot be rejected while a project with a lower score is funded. Projects that fall below the Energy Commission's adopted cut-off line will not be funded at this time.

If a successful Applicant decides to withdraw a proposal, or if Applicant will not sign a proposed agreement within the allotted time, the project can be disqualified from this award and the next highest-ranked project may be funded instead.

The Scoring Committee will give a score from zero to ten for each criterion described below, based upon the information provided by the Applicant's proposal. Each score will then be multiplied by a weighting factor to obtain the total points for that criterion. The scoring form is provided as Exhibit E-2.

Scores will be assigned in accordance with the following guidelines:

Score	Proposal Response
0	Failing Response
1 to 3	Below Average Response
4 to 6	Marginal Response
7	Average/Acceptable Response – Meets relevant considerations, satisfactory
8 to 9	Above Average Response – Meets relevant considerations, convincing
10	Exceptional Response – Complete, specific and superior, both quantitatively and qualitatively

C3. What are the Technical, Financial and Policy Evaluation Criteria?

All proposals that pass the Completeness, Eligibility and Feasibility screening will be evaluated for merit based on the following technical, financial and policy evaluation criteria. Proposals must satisfactorily respond to these criteria in order to receive the minimum passing score of 105 points (70% passing).

CRITERION	WEIGHTING	MAXIMUM POSSIBLE SCORE
1. Soundness of Technical Approach and Scientific Baseline	2.0	20
2. Reliability: Improvement in reliability/quality and diversity of California's Electricity	1.0	10
3. Affordability: Improves Energy Cost/Value of California's Electricity	1.0	10
4. Relevance to Solicitation's Targets and Stretch Goals	1.5	15
5. Likelihood of Success and Market Connection	1.5	15
6. Economic Benefits: Successful completion of the proposed project will directly impact local and state economies and state ratepayers	1.5	15
7. Cost Effectiveness of the Project	1.5	15
8. Match Contribution	2.0	20
9. Skills, Knowledge and Experience of Team	2.0	20
10. Other significant factors that increase the project's merit	1.0	10

Evaluation Criteria Details

1. Soundness of Technical Approach and Scientific Baseline:

Weighting Factor: 2.0 Possible Points: 20

Proposal should address the extent to which the project will develop sound products, services and/or knowledge that improves the reliability, affordability, diversity and safety of electricity for California ratepayers by:

- Increasing wind generation penetration into the electricity market to meet RPS goals and to promote commercialization of cost-effective low speed wind turbine systems and IMC.
- Articulating the “big-picture” approach for the project and demonstrate a low speed wind turbine systems capable of operating reliably and cost-effectively in a Class 3-4 wind regime (10m) in California. Present “timeline” for full project development to commercialization.

- Integrating the most appropriate IMC strategy to firm up wind and tailored for the region of application. Tradeoffs and considerations must be presented and discussed as well as industry partners and potential partners identified and engaged.
- Aligning low speed wind resource generation benefits with a location and service territory needs.
- Leveraging lessons learned from past industry projects/experiences and how current approach differs especially if alternative approaches have failed. The Applicant describes in detail, with substantiation, its past and current work in the subject technology and advances from baseline. Accomplishments (not just activities), successes and failures are described.
- Describing technical and economic feasibility studies including barriers, issues and identification and securing of necessary permits and environmental reviews.
- Describing the methodology and performance metrics used to determine the success of the project in achieving objectives and goals. Note quantified metrics to measure the success at the conclusion of the project must be included.
- Justifying how and why the proposed project is the necessary, next RD&D step for the industry. Results in a series of interconnected, logical, and discrete tasks within the project's proposed Work Statement.
- Clearly articulating any distinctive and innovative features of the approach.
- Demonstrating high probability of project success with a succinct Work Statement (Application Manual Attachment A-5), quality products, reasonable milestones and schedule, qualified team and other project details. Note: Projects should include tasks to complete a Test Plan, a Technology Transfer Plan, and a Production Readiness Plan as described in the Application Manual.
- Providing necessary proprietary information (if available) to complete the project is described, along with a plan for obtaining this information. Describe plans for resolving intellectual property concerns, if applicable.

2. Reliability – Improvement in Reliability, Quality and Diversity of California's Electricity:

Weighting Factor: 1.0 Possible Points: 10

Proposal should address the extent to which the project will develop products, services and/or knowledge that improves the reliability and safety of electricity for California ratepayers through:

- Improving the dispatchability of intermittent wind electricity generation by incorporating IMC strategies which maximize the value of wind resources to utilities.
- Increasing the physical reliability and security of generation by diversifying the generation portfolio for the state.
- Helping to achieve RPS goals and PIER RD&D programmatic targets with a complete wind generation package that offers performance in various wind regimes and manages intermittency risks.
- Collecting performance data and load information on a demonstration unit to close technology gaps relevant to low speed wind operation and to satisfy commercial certification and deployment needs.

3. Affordability – Improves Energy Cost/Value of California’s Electricity:

Weighting Factor: 1.0 Possible Points: 10

Proposal should address the extent to which the proposed project will lead to new product development, services and/or knowledge that improves the value of wind generated electricity and affordability of electricity for California ratepayers:

- Demonstrating a cost-effective complete wind turbine generation package by providing low speed wind generation technology coupled with commercially available systems as an IMC. (compare to current base case onshore wind technology = \$0.05/kWh without a Production Tax Credit - PTC)
- Improving efficiency for the complete wind turbine generation package.
- Increasing operating flexibility and confidence that can lead to higher wind penetration and improved energy value (i.e., for RPS bid process).
- Reducing operation and maintenance costs.

4. Relevance to Solicitation’s Targets and Stretch Goals:

Weighting Factor: 1.5 Possible Points: 15

Proposal should address the extent to which the proposed project will develop products, services and/or knowledge that meets or exceeds the targets and stretch goals by:

- Clearly identifying and explaining the quantitative or measurable technical performance goals and objectives relevant to targets in Section III, Table 1 achievable by the project.
- Showing expected values for key performance parameters for the proposed generating system and for a commercial product to meet market needs. Tradeoffs among the performance parameters are clearly discussed.
- Identifying and describes clear, significant, and quantifiable technical and economic objectives to support RPS and PIER RD&D goals.
- Describing the methodology and performance metrics used to determine the success of the project in achieving objectives and goals.

5. Likelihood of Success and Market Connection:

Weighting Factor: 1.5 Possible Points: 15

The likelihood, timing and economic value of successful market transfer of products, market utilization, services and/or knowledge resulting from the project and the extent to which the proposed project has made provisions to facilitate market transfer. Evaluations using this criterion will consider, for example:

- The probability that the project will lead to commercialized or otherwise useful products and/or services in the short-term (1-5 year), medium-term (6-10 year), and/or long-term (11+ year).
- The subsequent steps, and the approximate cost that must be taken to lead to a commercial product are discussed.
- The dollar value of these products and services, should successful commercialization or other uses occur.

- Whether specific hurdles to commercialization or other uses are addressed, such as manufacturing technology/cost, involvement of regulatory entities for projects focused on environmental benefits, participation of related companies/industries when the project addresses a component of a larger system, etc.
- The probability that science and/or knowledge resulting from the project will reach and address the needs of appropriate scientific, policy-making, industry and other communities; and the value of the science and/or knowledge to these communities.
- The likely extent of environmental impact and/or improvements (e.g., avian, community aesthetics, terrestrial animal habitat).

6. Economic Benefits – Successful Completion of the Proposed Project will Directly Impact Local and State Economies and State Ratepayers:

Weighting Factor: 1.5 Possible Points: 15

The extent to which the proposed project will result in products, services, and/or knowledge with direct economic benefits to California's economies and ratepayers by: 1) increased employment; 2) increased quality of jobs; 3) increased tax revenues or new market benefits; 4) other factor that directly increases California's gross state product. Evaluations using this criterion will consider, for example:

- Probability that the project will lead to commercialized or otherwise useful products and services in the short-term (1-5 years), medium-term (6-10 years), and long-term (over 11 years).
- Estimates (quantified metrics) for gauging the success of the project related back to the critical issues being addressed.
- Savings from the deferment of costly T&D upgrade and new construction due to locating a low speed wind facility utilizing low speed wind systems and IMC.
- The number and quality of jobs inside California that will be created should successful commercialization occur.
- Tax revenue, in-state jobs or other benefits resulting from the science and/or knowledge resulting from the project.
- Expected stakeholders (users, market segments) and communities that will benefit from the expected outcomes.
- Description of the potential market size as well as any significant market outside California.
- Related benefits such as reduced environmental emissions and costs, reduced odors, manufacturing costs, improved fuel conversion efficiency, greater reliability and durability are discussed and quantified, and related to the project objectives and goals.

7. Cost Effectiveness of the Project:

Weighting Factor: 1.5 Possible Points: 15

The cost of the proposed project will be evaluated relative to the overall public benefits being provided by the project. Evaluation criteria will consider:

- Total cost of the project.

- The amount of PIER funds requested.
- The likelihood that the project will provide significant science or technology benefits.
- The proposal demonstrates that the total project cost is appropriate, considering: 1) the significance of the barriers being addressed, 2) the project's objectives and goals, and 3) the level of effort described in the Work Statement.
- The estimated value of the public benefits to be provided by the project.
- The extra value Applicant brings based on prior projects.

8. Match Contribution:

Weighting Factor: 2.0 Possible Points: 20

The appropriateness of the proposed project and level of match funds will be evaluated based on:

- The types, amount and sources of match funds identified in the proposal.
- The amount of public (versus private) benefits that will result from the project.
- The security of the proposed match funds.
- The type of match funding proposed (e.g., cash versus in-kind contributions).
- Satisfying the minimum 50% match fund contribution (20% of 50% must come from private sources) as specified in Section III A.
- Project budget information provided is consistent with the work statement and itemized costs for personnel, subcontractors, materials, operating and total expenditures for each task are reasonable.
- The percentage of matching funds should be proportional to the amount of private versus public benefits that are likely to result from the project: 1) Projects providing more private benefits versus public benefits should have a higher % of match funds than projects that provide more public benefits; 2) Percentage of match funds should be greater for innovations that are closer to market adoption; 3) Projects likely to lead to commercialized products and services within a short time frame should have higher % of match funds than projects whose results are further in time from commercialization.
- Note: A financial review of the Applicant based on information will be conducted as part of the review process to assess the ability of the Applicant to successfully provide match funds and conduct the project.

9. Skills, Knowledge and Experience of Team:

Weighting Factor: 2.0 Possible Points: 20

The proposal should indicate the extent to which:

- The qualifications (resume list) of the Project Director and the Project Members (Team) to successfully conduct the project and overcome obstacles.
- The team has sufficient experience and a demonstrated track record for bringing large complex systems to commercialization via project development, manufactured engineering improvements and market connectedness.
- The team has demonstrated its capability to perform the project's scientific and engineering (technical) tasks.

- The team is capable of administering the grant agreement to control costs, maintain the project schedule, help develop the technology and communicate status with the funding agency.
- The team has the relations, financial skills and capability to ensure market connection of the technology.
- The team has adequate resources and flexibility to overcome resource, personnel changes and knowledge shortfalls.

10. Other Significant Factors that Increase the Project's Merit:

Weighting Factor: 1.0 Possible Bonus Points: 10

Other significant factors that increase a project's merit will be considered by the proposal evaluation team. The following are examples:

- The Applicant already has access to a California low speed wind site for demonstration of proposed turbine technology.
- The proposal clearly shows that the Applicant (approach, resources, innovative and unique technology for low speed wind turbine and commercially available IMC) has the potential to successfully reach commercialization in the near-term (1-3 year). The extent to which any patent lawsuits or claims jeopardize completion of the grant agreement should be identified.
- The proposal addresses key problems and focus areas consistent with the goals and objectives stated in the CEC Energy Action Plan (available on the CEC website www.energy.ca.gov)
- The Applicant's performance on previous Energy Commission agreements has been superior (e.g., goals and objectives either were achieved or the Applicant documented significant lessons learned, and the Applicant responded to Energy Commission direction. Products/products were complete and submitted on time and within budget).
- Team is uniquely qualified and demonstrates financial capability to successfully complete the project.
- The proposed project is well-integrated with, and complementary to, other low wind speed turbine and intermittency technology RD&D efforts, such as those being funded by the U.S. Department of Energy, other federal government agencies, agencies from other states, and others (please specify).

Summary of all evaluation scores

- Total possible points: 150
- Minimum passing score: 105 (70%)

D. Questions Related to Submission of Applications and Administrative Information

This section provides Applicants with information on submitting a successful proposal, definitions of important terms, sources of information, how to submit a proposal, grounds for rejecting a proposal, and other administrative details. Every technical proposal must establish in writing the Applicant's ability to perform the tasks listed in the Work Statement.

D1. Is There a Deadline for Submitting a Proposal to this Solicitation?

All copies of your proposal must be delivered to the Energy Commission's Grants and Loan Office during normal business hours and prior to the date and time specified in Section III. Proposals received after the specified date and time are considered late and will not be accepted. There are no exceptions.

D2. How Should a Proposal be Packaged and Labeled for Submittal?

Applicants must submit the required number of copies of each volume, including if necessary, the Confidential Information. The original and copies of each volume must be in a separate, sealed envelope, labeled with the following information, depending upon the contents of the envelope:

- "Volume 1 – Administrative Section"
- "Volume 2 – Technical and Cost Sections"
- "Volume 3 – Confidential Information"

All envelopes must further be labeled "PIER Targeted Wind Solicitation for Expanded Wind Regime Turbine Technology and Intermittency Management Demonstration" and include the title of the proposal.

D3. Is There a Preferred Method for Delivery of the Proposal?

Applicant may deliver a proposal by:

- U. S. Mail
- Personally
- Courier service

Postmark dates of mailing, electronic mail and facsimile (FAX) transmissions are not acceptable in whole or in part under any circumstances.

D4. What is the Address for Delivery of Proposals?

Label and deliver your proposal, in a sealed package, as follows:

Person's Name, Phone #
Applicant's Name
Street Address
City, State, Zip Code
FAX #

**Wind Target Solicitation for Expanded Wind Regime
Technology and IMC Demonstration**

Grants and Loan Office
California Energy Commission
1516 Ninth Street, MS-1
Sacramento, CA 95814

D5. Can I be Reimbursed for the Cost of Preparing this Application?

No. The Applicant is responsible for the cost of developing a proposal, and this cost cannot be charged to the State or the Energy Commission.

D6. Can the Energy Commission Impose Conditions or Limits on Awards?

Yes. The Energy Commission reserves the right to condition, modify or otherwise limit any and all PIER funding awards made pursuant to this Solicitation so as to avoid unnecessary duplication or overlap of efforts within a proposal or between proposals receiving PIER funding.

D7. Can the Energy Commission Cancel or Amend This Solicitation?

Yes, if it is in the State's best interest. The Energy Commission reserves the right to do any of the following:

- Cancel this Solicitation;
- Amend or revise this Solicitation as needed; or
- Reject any or all proposals received in response to this Solicitation.

D8. How will I know if the Solicitation is Revised?

If the Solicitation must be changed or revised, the Energy Commission will prepare and mail a formal written addendum to all parties who requested a copy of the Solicitation from the Energy Commission. In addition, the addendum will be posted on the Energy Commission's Web Site: www.energy.ca.gov/research. The Solicitation cannot be revised after the proposal due date.

D9. What If I Find an Error in this Solicitation Document?

If Applicant discovers any ambiguity, conflict, discrepancy, omission, or other error in the Solicitation, the Applicant shall immediately notify the Energy Commission of such error in writing and request modification or clarification of the document. Clarifications will be given by written notice of all parties who have obtained a Solicitation, without divulging the source of the request for clarification. The Energy Commission shall not be responsible for failure to correct errors.

D10. Generally, What are the Grants Requirements?

Term of the Grant Agreement

The estimated term of the grant award will be from December 2004 to December 2008. Typically, the duration of a project is shorter than the term of the agreement. It is anticipated that projects under this Solicitation will span a two to four year period.

PIER Grants -Terms and Conditions

Standard PIER Grants Terms and Conditions are included in this Solicitation (Exhibit E-1, Terms and Conditions). It is the intention of the Energy Commission to use these Standard Terms and Conditions in all agreements awarded as a result of this Solicitation. Applicants who are awarded grants should review the terms and conditions prior to signing the grant agreement. The Energy Commission reserves the right to modify the terms and conditions anytime prior to executing the grant award. The content of this Solicitation and the Applicant's proposal will be incorporated by reference into the final agreement.

Grant Agreement Cancellation

The Energy Commission reserves the right to terminate any grant through this Solicitation by providing a 30-day notice to the successful Applicant.

No Grant Award Until Signed and Approved

The proposed grant between the Energy Commission and the successful Applicant is not in effect until the grant agreement is signed by all of the parties, which includes approval at an Energy Commission Business Meeting, Applicant signature, and Energy Commission signature.

Grant Amendment

A grant agreement executed as a result of this Solicitation can be amended by mutual consent of the Energy Commission and the Recipient. The grant may require amendment as a result of project review, changes and additions, changes in project scope, or availability of funding.

Audit

The PIER Audit Program, Bureau of State Audits, or other appropriate State agency may audit a grant awarded under this Solicitation up to a period of three years after the final payment or termination of the grant.

Subcontractors

Any subcontractor the Applicant chooses to use in fulfilling the requirements of this Solicitation that is expected to receive more than ten percent (10%) of the value of the agreement, must also meet all administrative and technical requirements of this Solicitation. The Applicant must provide a summary of each subcontractor's qualifications, including experience and duties that would be performed under the Work Statement.

The Recipient is responsible for the quality of all subcontractor work, and may only replace subcontractors as specified under the Grant Terms and Conditions.

Universities

Separate terms and conditions have been negotiated with the University of California. A University of California Recipient can use these Energy Commission-approved terms. These terms and conditions are available by contacting the Energy Commission Grants and Loan Officer at (916) 654-4381.

Department of Energy (DOE) Laboratories

Separate terms and conditions have been negotiated with DOE Labs. DOE Labs can use these Energy Commission-approved terms. These terms and conditions are available by contacting the Energy Commission Grants and Loan Officer at (916) 654-4381.

D11. What If I Decide To Modify Or Withdraw My Proposal?

Withdrawal/Modification

Applicant may, by letter to the Grants and Loan Officer, withdraw or modify a submitted proposal before the proposal deadline (due date and time) in the schedule. Proposals cannot be changed after that date and time.

Immaterial Defect

The Energy Commission may waive any immaterial defect or deviation contained in an Applicant's proposal. The Energy Commission's waiver shall in no way modify the proposal or excuse the successful Applicant from full compliance.

D12. How Will I Know if I Have Been Awarded A Grant?

A Notice of Proposed Awards (NOPA) will be posted for five (5) working days at the Energy Commission's headquarters in Sacramento, and on the Energy Commission's web site. In addition, each Applicant will be mailed a copy of the NOPA.

D13. What is the Grant Agreement Process?

The grant process is:

- 1) Post NOPA
- 2) Receive approval at Energy Commission Business Meeting
- 3) Develop Grant Agreement and Execute

Grant documents will be prepared and sent to successful Applicants for their signatures. The Energy Commission will not consider any substantive changes to the grant "terms and conditions" contained in this Solicitation. If, for any reason, a successful Applicant does not respond by signing the grant agreement documents within a reasonable time (30 days after mailing), the Energy Commission may eliminate that project from its award list and select the next highest ranked project for funding.

D14. What are the Grounds for Rejection?

Refer to the screening criteria provided in Section III. C. "What is the Proposal Screening Process."

D15. What Happens If My Proposal Is Unsuccessful?

After the NOPA is posted, each unsuccessful Applicant may request a debriefing meeting with the Energy Commission. The debriefing meeting is an opportunity for an unsuccessful Applicant to learn why their particular proposal was not successful and may provide insight to improving proposal preparation for future Solicitations.

D16. What Happens To My Proposal Documents?

On the Notice of Proposed Award date, all proposals and related material submitted in response to this Solicitation become the property of the State and a part of the public record, unless the Applicant has submitted an application for confidentiality.

Confidential documents submitted by unsuccessful Applicants will be returned to the Applicant or destroyed by the Energy Commission. Applicant identified and Energy Commission designated confidential documents will be filed separately from the rest of the proposal and grant documents. Only authorized persons will have access to these designated confidential documents.

IV. Key Words and Their Definitions

KEY WORDS	DEFINITIONS
Applicant	Offeror of proposed RD&D project
Availability	A measure of time a generating unit, transmission line, or other facility is capable of providing service, whether or not it actually is in service. Typically, this measure is expressed as a percent available for the period under consideration. (Ref.: Glossary of Terms Task Force, North American Electric Reliability Council, http://www.nerc.com/glossary/glossary-body.html)
Baseline Condition	The current, state-of-the-art technology or body of knowledge for a particular topic.
CEQA	California Environmental Quality Act http://ceres.ca.gov/topic/env_law/ceqa/guidelines/
Energy Commission	California Energy Commission.
COE	Cost of electricity (\$/kWh)
CPR	Critical Project Review meeting held at the Energy Commission to review progress and status of project
Grant	The agreement signed by the Applicant and the Energy Commission and approved at Energy Commission Business Meeting.
Grant Budget	The proposed Energy Commission-reimbursable expenditures AND the Applicant's match fund expenditures for that portion of the project covered by the agreement term.
Grant Term	The start and end dates stated in the agreement between the Energy Commission and the Recipient. The project may be shorter than, coincide with, or extend beyond, the grant term. However, all Energy Commission reimbursed and match share funded activities must occur during the agreement term.
Decision Maker	An individual or organization that can use the results of a completed project for further RD&D, technology commercialization, or use.
Demonstration	Operation of a completed product embodying a prototype or commercial configuration of a technology for the purpose of demonstrating the attainment of project goals.
Development	Bringing into reality or activity a product embodying a commercial configuration of a technology.
Dispatchability	Generation available physically or contractually to respond to changes in system demand or to respond to transmission security constraints. (Ref.: Glossary of Terms Task Force, North American Electric Reliability Council, http://www.nerc.com/glossary/glossary-body.html)

Distributed Generation (DG), also referred to as Distributed Energy Resources (DER)	An Energy Commission Committee has defined DG as stationary applications of electric generating technologies that are smaller than 50 MW of net generating capacity, the Energy Commission’s power plant siting jurisdiction threshold. These generating installations may be owned by electric or gas utilities; industrial, commercial, institutional or residential energy consumers; or independent energy producers. They include generating technologies such as engines, fuel cells, small and “micro” gas turbines, solar photovoltaics (PV), and wind turbines, and may be combined with electric storage technologies such as batteries and flywheels. (Ref: <i>Distributed Generation: CEQA Review and Permit Streamlining</i> , California Energy Commission Energy Facility Siting and Environmental Committee, report number P700-00-019, December 2000, page 10, available at http://www.energy.ca.gov/distgen/documents .) Other entities have defined DG in different ways. For example, the California Alliance for Distributed Energy Resources (CADER), Technology Characterization Committee, described DER technology characteristics as follows: “generates or stores electricity located near or at a load center, can be grid connected or isolated, has a value greater than grid power including customer value, distribution system benefits, backup or emergency power, and social or environmental value.”
Economic Performance Objective	A degree of improvement in the capital cost, operating cost, or maintenance cost of a system expressed as an improved competitive position in the market.
End User	An entity that consumes energy, including electricity or thermal energy, or that directly generates and/or markets energy systems.
Equipment	An item or group of items having a useful life of at least one year and having an acquisition unit cost of at least \$5,000. <i>Equipment</i> means any products, objects, machinery, apparatus, implements or tools purchased, used or constructed within the project, including those products, objects, machinery, apparatus, implements or tools from which over thirty percent (30%) of the equipment is composed of materials purchased for the project.
FOB	Freight on board. When referring to cost, this is the cost of the item ready for shipping from the manufacturer.
Goal	For the purposes of this Solicitation, “goal” is defined as an improvement in technology or the state of knowledge that can be measured and quantified.
Innovation	Previously unknown, unused, or not broadly adopted combination of methods, materials, processes, or conditions.
Key Personnel	Those individuals who are critical to the successful completion of the proposed project and are difficult to replace because of their experience, capabilities and knowledge.

Key Subcontractors	Those contractors, subcontractors or vendors to the Recipient who are critical to the outcome of the project. As with Key Personnel, Key Subcontractors may have expertise in the particular field, or have experience that is not available from another source and replacement may significantly affect the project. An employee of the Recipient's subcontractor or vendor may also qualify as "key."
Market Connection	A key objective of the PIER program is to develop energy products or services that will be applied in the real world, and will thus produce benefits for California's electricity ratepayers. A strong connection with the market can be demonstrated by (1) identifying a specific market(s) for the products or services resulting from the RD&D efforts, (2) estimating the size of that market (and how much of that market exists in California), (3) providing an overview of the pathway(s) by which such products or services will ultimately enter the marketplace, and (4) identifying people and entities that can aid in facilitating market entry. Demonstration projects should be closely connected to the market, while fundamental research projects may have a less quantifiable market connection.
Milestone	A significant point in the performance of the project. Examples include the Critical Project Review, the completion of a task, the submittal of a product, the completed installation of a piece of hardware, and the initial operation of a new system.
Objective	For this Solicitation, "objective" is defined as a desired condition outside the project itself that results from the success of the project.
Performance Metric	An indicator of the performance of a product that allows the research product to be evaluated on its ability to meet the identified technical, economic and performance goals.
PON	Program Opportunity Notice
Private Benefit	For the purposes of this Solicitation, private benefit is an economic return or profits that the Applicant or a member of the team acquires for its own advantage.
Products	Products are deliverables that incorporate the knowledge and understanding gained by performing the activities and that are submitted to the Energy Commission for review, comment and approval.
Program	A collection of individual projects with the same set of overall goals and objectives, wherein each project develops a unique product or service to help achieve the overall program goals and objectives. Within a program, the individual projects are separate and their unique products or services can be developed independently (e.g., development of several different types of technology a coordinated effort to achieve lower costs and higher efficiencies). By simply obtaining information (as opposed to

	developing a product or service) does not constitute a program.
Project	An RD&D effort intended to advance a specific science and/or technology that is guided by a set of goals and objectives and that is implemented according to a valid technical approach.
Proposal	The formal written response to this Solicitation from the Applicant. If the proposal is accepted by the Energy Commission, the proposal will be included as part of the agreement.
PTC	Production Tax Credit
Public Benefit	A project produces public benefits if it achieves one or more of the following five objectives: (1) improves energy cost or value, (2) improves the environment, public health and safety, (3) improves energy reliability, quality or sufficiency, (4) strengthens the California economy, and (5) provides consumer choice. (Ref: <i>California Energy Commission Five-Year Investment Plan, 2002 Through 2006, for the Public Interest Energy Research (PIER) Program, Volume 1, Report to the California Legislature</i> , California Energy Commission, March 1, 2001. Available at http://www.energy.ca.gov/research/ .)
Recipient	Applicant, after a grant with Energy Commission has been signed and approved.
Reliability	The degree of performance of the elements of the bulk electric system that results in electricity being delivered to customers within accepted standards and in the amount desired. Reliability may be measured by the frequency, duration, and magnitude of adverse effects on the electric supply. Electric system reliability can be addressed by considering two basic and functional aspects of the electric system Adequacy and Security. Adequacy is the ability of the electric system to supply the aggregate electrical demand and energy requirements of the customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements. Security is the ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system elements. (Ref.: Glossary of Terms Task Force, North American Electric Reliability Council, http://www.nerc.com/glossary/glossary-body.html)
Research	The careful, systematic, and reasonably thorough study and investigation in a particular field of knowledge, for the purpose of discovering or establishing facts or principles and developing a product or process.
Serviceable Life	Minimum hours of operation within which cost-effective maintenance can be accomplished. When unit replacement is a less expensive option, serviceable life ends.
Solicitation	The PON and Application Manual, this entire document. The competitive process of selecting project(s) to be funded under this Solicitation.

Stakeholder	An entity, such as an individual, corporation, trade organization, end user, research organization, university, regulatory body, government agency, financial organization, sponsor, or marketer that has a title, financial share, special skill or resource, mandated responsibility, or other direct interest in the undertaking to develop, enable, negotiate, deploy, or commercialize a technology.
State	State of California.
Subject Technology	The body of knowledge, system component, device, generating system, manufacturing technique, material, etc. that will be improved as a result of the project proposed by the Applicant.
Task	A distinct research effort that includes an objective, a description of related activities, and a list of products. Within this Solicitation, the task is the lowest level of a research effort. Multiple tasks support a project.
Team Member	A stakeholder with contractual responsibilities to the Energy Commission (i.e., the Applicant), or to the Applicant (e.g., subcontractors, consultants, etc.), associated with a project. Such team members may include, but are not limited to, wind turbine system manufacturers, suppliers, vendors, universities, research organizations, a National Laboratory, technology owners, industry trade organizations, and end users.
Technical Performance Objective	A qualitative degree of improvement in the performance of a system, component, or subsystem.
Technological Baseline	The current state-of-the-art or the developmental status of the subject technology to be developed, or the body of knowledge to be advanced.
Technology	The general subject area where the product or innovation would be used.
Usability	An index indicating the ease of operation from the end-user perspective.

V. Application Manual Attachments and Forms and Exhibits

Volume 1 Administrative Information	
ATTACHMENT NUMBER	ATTACHMENT TITLE
A-1	Application and Project Information Form
A-2	Project Team List, Key Personnel, Key Subcontractors <ul style="list-style-type: none"> • Narrative Description of Skill and Experience • Resumes
A-3	Financial Information Form

Volume 2 Technical & Cost Information	
ATTACHMENT NUMBER	ATTACHMENT TITLE
A-4	Executive Summary Form
A-5	Work Statement
A-6	Products, Due Dates and Gantt Chart
A-7	1. Category Budget Information, Instructions and Forms 2. Task Budget Instructions and Forms
A-8	Permit List

Volume 3 Confidential Information & Pre-existing Intellectual Property (if applicable)	
ATTACHMENT NUMBER	ATTACHMENT TITLE
A-9	Confidential Products and Pre-Existing Intellectual Property List and Instructions

Exhibits	
NUMBER	TITLE
E-1	Grant Terms and Conditions
E-2	Technical Review Scoring Form
E-3	Summary of Allowable Travel and Per Diem Expenses

Attachment A-1: Application & Project Information

All Applicants are required to complete Attachment A-1 for the application. All Applicants are also required to complete and sign the attached authorizing letter. Applications received without an authorizing signature are considered incomplete and will not be evaluated.

Application Date: _____

Applicant Name: _____

Application Due Date: September 7, 2004

Application Due Time: 4:00pm, PDT

Number of months required to complete project (**Maximum of 48 months**): _____

Energy Commission Funds Requested: \$_____ = ____% of Total Project Budget

Match Contribution by Applicant ¹: \$_____ = ____% of Total Project Budget

Total Project Budget: \$_____

¹ Minimum match contributions are: 50% of total project costs; at least 20% of total project costs must come from private sources. Funding from other entities affiliated with the project can be counted toward match contribution as indicated in the Application Manual.

Source of Match Funds:

Applicant is (check one):

_____ Public Entity

_____ Private Individual

_____ Public/Private Partnership

_____ Local Jurisdiction

_____ Private For-Profit Company

_____ Other (specify: _____)

Applicant Name: _____

Applicant

Company Name: _____

Project Title: _____

Mailing Address: _____

Street Address: _____

Project Director: _____ Title: _____

Mailing Address: _____

Telephone #: _____

E-mail Address: _____

Project Manager: _____ Title: _____
Mailing Address: _____

Telephone #: _____
E-mail Address: _____

Accounting _____ Title: _____
Contact: _____
Mailing Address: _____

Telephone #: _____
E-mail Address: _____

Legal Contact: _____ Title: _____
Mailing Address: _____

Telephone #: _____
E-mail Address: _____

Abstract of the Project (one paragraph):

Narrative for Project Benefits to California (bullet format):

AUTHORIZING LETTER

I certify to the best of my knowledge that the information contained in this application and supplemental information is correct and complete.

I authorize the California Energy Commission to make any necessary inquiries, including financial and credit checks, to verify the information I have presented.

Applicant Name

Signature of Authorized Representative

Date

Note: For a Local Jurisdiction, the Authorized Representative must be the person designated in their Governing Body's resolution. For a Private Entity, the Authorized Representative must be the President, Owner, General Partner or authorized (by original signed letter) designee.

Attachment A-2: Project Team List, Key Personnel, Key Subcontractors

All Applicants are required to complete Attachment A-2 for the application.

Project Management Structure and Team List

- Narrative Description of Skills and Experience
- Resumes

Key Personnel

- Narrative Description of Skills and Experience
- Resumes

Key Subcontractors

- Narrative Description of Skills and Experience
- Resumes

Attachment A-3: *Financial Information* (Private Entities Only)

If applicable, Applicants are required to complete Attachment A-3 for the application.

Applicant Information

Full Legal Name of
Applicant:

Business Address:

Telephone Number:

Federal Tax ID Number:

Nature of Business:

Number of Employees:

Year Established:

How Long Under Current
Ownership?

Legal Form of Business (select from the following):

☐ Sole Proprietorship

☐ Limited Partnership

☐ General Partnership

☐ Corporation

☐ Limited Liability Company (LLC)

☐ Sub-Chapter S Corporation

☐ Other (specify: _____)

- If Corporation, attach Article of Incorporation.
- If Partnership, attach Partnership Agreement.
- If Sole Proprietorship, attach Fictitious Name Filing.
- If LLC, attach Articles of Organization.

Note: Certain entities such as corporations, limited partnerships/limited liability companies may be required to register and be in good standing with the California Secretary of State to be eligible to enter into a funding agreement with the Energy Commission. If you are not registered with the California Secretary of State, we encourage you to contact their office at **www.ss.ca.gov** or (916) 653-6814 as soon as possible to avoid potential delays in beginning your project should you be awarded funding.

Ownership/Management Information

Applicants must provide the following management and ownership information:

Management (all applicants)

Name	Title	Years with Company
------	-------	--------------------

Ownership (list all corporate and partnership applicants)

Shareholder/Partner	% Ownership	SS#	General or Limited
---------------------	-------------	-----	--------------------

Financial Information

Provide the information requested under the Applicant's legal form of business from the following categories. If 25% or more of non-governmental match funding is coming from an outside source(s), the following information must be provided on that source(s) as well.

Please check off the information that has been included in this application.

For Corporations and LLCs

Check A, B, C or Check A, B, D

- ☐ A) Current personal financial statement and the most recent one year's complete federal tax return with all schedules for all principals of closely-held corporations only;
- ☐ B) Identify cash from outside sources if match share(s) identified in the application do not materialize;
- ☐ C) Three most recent years of complete, independent CPA-prepared, FYE audited, reviewed, or compiled financial statements;
- ☐ D) Three most recent years internally prepared FYE financial statements which include at least income statements, balance sheets, and cash flow statements; **plus** three most recent years complete federal tax returns (as submitted to taxing authorities) with all schedules. (If the corporation or LLC has marginal assets, current personal financial statements and the most recent one-year's complete federal tax returns with all schedules for all principals may be requested for the final application.)

For Partnerships

Check A, B, C or Check A, B, D, E

- ☐ A) Current personal financial statement and the most recent one year's complete federal tax return with all schedules for general partners;
- ☐ B) Identify cash from outside sources if match share(s) identified in the application do not materialize;
- ☐ C) Three most recent years of complete, independent CPA-prepared, FYE audited, reviewed, or compiled financial statements;
- ☐ D) Three most recent years internally-prepared, FYE financial statements which include at least an income statement, balance sheet, and cash flow statement;
- ☐ E) Three most recent years complete federal tax returns (as submitted to taxing authorities) with all schedules and **K-1's**.

For Sole Proprietors

Check A, B, C, D

- ☐ A) Current personal financial statement and the most recent one year's complete federal tax return with all schedules for all principals;
- ☐ B) Identify cash from outside sources if match share(s) identified in the application do not materialize;
- ☐ C) Three most recent years of complete federal personal income tax returns (as submitted to taxing authorities) with all schedules;
- ☐ D) Current personal financial statement (preferably on a bank form).

Other Information

All private-entity applicants ***must*** answer the following questions and provide additional information as required. Failure to do so will result in an incomplete application that will be returned unprocessed to you for completion.

YES NO

- ☐ ☐ Has your business, or you as a sole proprietor, ever filed bankruptcy or defaulted on any debts?
- ☐ ☐ Is your business, or you as a sole proprietor, a party to any claim or lawsuit?
- ☐ ☐ Are you aware of any potential adverse change to the company's business or financial condition that can reasonably be anticipated?
- ☐ ☐ Does your company anticipate any significant capital expenditures within the next twelve (12) months?
- ☐ ☐ Does the company have any contingent liabilities? (i.e., is the business or principal an endorser, guarantor, or co-maker for any obligation?)

If the answer to any of the above questions is YES, explain fully for purposes of evaluating match funding capability and ability to successfully conduct the proposed project.

Attachment A-4: Executive Summary - Narrative for Project Description, Goals, and Actions

All Applicants are required to complete Attachment A-4 for the application.

Prepare an Executive Summary of the project, no longer than two [2] pages, which describes the vision, objectives and benefits in summary form. Refer to the Executive Summary instructions provided in the Application Manual.

Attachment A-5: Work Statement

All Applicants are required to follow the Work Statement template provided as Attachment A-5 for the application. Refer to the Work Statement Instructions at the end of the template.

WORK STATEMENT
TARGETED WIND SOLICITATION
<Insert Applicant Company Name>
<Insert Project Title>

GLOSSARY

Specific terms and acronyms used throughout this work statement are defined as follows:

Acronym	Definition
CPR	Critical Project Review
	<i>(Insert additional rows as needed.)</i>

TECHNICAL TASK LIST

(Insert the Task numbers and Task names for your Agreement. Put an "X" in the CPR column next to the Tasks that contain a Critical Project Review).

Task #	CPR	Task Name
1	N/A	Administration
2		
3		
Etc.		
N-1	N/A	Technology Transfer Activities
N	N/A	Production Readiness Plan

KEY NAME LIST

(Insert the Task numbers and the Key names for each Task in your Project. Add additional lines as needed.)

Task #	Key Personnel	Major Subcontractor(s)	Key Partner(s)
1	<Name>	<Name>	<Name>
2	<Name>	<Name>	<Name>
3	<Name>	<Name>	<Name>
4	<Name>	<Name>	<Name>
N-1	<Name>	<Name>	<Name>
N	<Name>	<Name>	<Name>

Problem Statement

<please see instructions>

Relationship to PIER Goals

This Agreement meets the PIER Goal of ... <please see instructions>

Goals of the Agreement

The goal of this Agreement is to ... <please see instructions>

Objectives of the Agreement

The objectives of this Agreement are to... <please see instructions>

TASK 1.0 ADMINISTRATION

MEETINGS

Task 1.1 Attend Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a “kick-off” meeting with the Commission Project Manager, the Grants and Loan Officer, and a representative of the Accounting Office. The Recipient shall bring their Project Manager, Contract/Grant Officer, Accounting Officer, and others designated by the Commission Project Manager to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the Commission Project Manager will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include, but not be limited to, the following:

- Terms and conditions of the Agreement
- CPRs (Task 1.2)
- Match fund documentation (Task 1.7)
- Permit documentation (Task 1.8)

The technical portion of the meeting shall include, but not be limited to, the following:

- The Commission Project Manager's expectations for accomplishing tasks described in the Work Statement;
- An updated Schedule of Products
- An updated Gantt Chart
- Progress Reports (Task 1.4)
- Technical Products (Task 1.5)
- Final Report (Task 1.6)

The Commission Project Manager shall designate the date and location of this meeting.

Recipient Products:

- An Updated Schedule of Products
- An Updated Gantt Chart
- An Updated List of Match Funds
- An Updated List of Permits

Commission Project Manager Products:

- Final Report Instructions

Task 1.2 CPR Meetings

The goal of this task is to determine if the project should continue to receive Commission funding to complete this Agreement and if it should, are there any modifications that need to be made to the tasks, products, schedule or budget.

CPRs provide the opportunity for frank discussions between the Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Commission Project Manager and as shown in the Technical Task List above and in the Schedule of Products. However, the Commission Project Manager may schedule additional CPRs as necessary, and any additional costs will be borne by the Recipient.

Participants include the Commission Project Manager and the Recipient, and may include the Commission Grants and Loan Officer, the PIER Program Team Lead, other Commission staff and Management as well as other individuals selected by the Commission Project Manager to provide support to the Commission.

The Commission Project Manager shall:

- Determine the location, date and time of each CPR meeting with the Recipient. These meetings generally take place at the Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.

- Conduct and make a record of each CPR meeting. One of the outcomes of this meeting will be a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not to modify the tasks, schedule, products and budget for the remainder of the Agreement, including not proceeding with one or more tasks. If the Commission Project Manager concludes that satisfactory progress is not being made, this conclusion will be referred to the Commission's Research, Development and Demonstration Policy Committee for its concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this Work Statement. Submit these documents to the Commission Project Manager and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

Recipient Products:

- CPR Report(s)
- CPR Products identified in the Work Statement

Commission Project Manager Products:

- Agenda and a List of Expected Participants
- Schedule for Written Determination
- Written Determination

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

- Meet with the Commission to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient, the Commission Grants and Loan Officer, and the Commission Project Manager. The technical and

administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the Commission Project Manager.

The technical portion of the meeting shall present findings, conclusions, and recommended next steps (if any) for the Agreement. The Commission Project Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Project Manager and the Grants and Loan Officer about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options)
 - Commission's request for specific "generated" data (not already provided in Agreement products)
 - Need to document Recipient's disclosure of "subject inventions" developed under the Agreement
 - "Surviving" Agreement provisions, such as repayment provisions and confidential products
 - Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.

Products:

- Written documentation of meeting agreements and all pertinent information
- Schedule for completing closeout activities

REPORTING

See Exhibit D, Reports/Products/Records.

Task 1.4 Monthly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the research objectives of this Agreement.

The Recipient shall:

- Prepare progress reports which summarize all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the Commission Project Manager within 5 working days after the end of the reporting period. The Progress Report Format, provides the recommended specifications.

Products:

- Monthly Progress Reports

Task 1.5 Test Plans, Technical Reports and Interim Products

The goal of this task is to set forth the general requirements for submitting test plans, technical reports and other interim products, unless described differently in the Technical Tasks.

The Recipient shall:

- Submit a draft of each product listed in the Technical Tasks to the Commission Project Manager for review and comment in accordance with the approved Schedule of Products. The Commission Project Manager will provide written comments back to the Recipient on the draft product within 5 working days of receipt. Once agreement has been reached on the draft, the Recipient shall submit the final product to the Commission Project Manager. The Commission Project Manager shall provide written approval of the final product within 2 working days of receipt. Key elements from this product shall be included in the Final Report for this project.

Task 1.6 Final Report

The goal of this task is to prepare a comprehensive written Final Report that describes the original purpose, approach, results and conclusions of the work done under this Agreement. The Commission Project Manager will review and approve the Final Report. The Final Report must be completed on or before the termination date of the Agreement. The Final Report Contents and Format, provides the recommended specifications.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following subtasks for both the public and confidential versions of the Final Report.

Task 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a draft outline of the Final Report.
- Submit the draft outline of Final Report to the Commission Project Manager for review and approval. The Commission Project Manager will provide written comments back to the Recipient on the draft outline within 5 working days of receipt. Once agreement has been reached on the draft, the Recipient shall submit the final outline to the Commission Project Manager. The Commission Project Manager shall provide written approval of the final outline within 2 working days of receipt.

Products:

- Draft Outline of the Final Report
- Final Outline of the Final Report

Task 1.6.2 Final Report

The Recipient shall:

- Prepare the draft Final Report for this Agreement in accordance with the approved outline.
- Submit the draft Final Report to the Commission Project Manager for review and comment. The Commission Project Manager will provide written comments within 10 working days of receipt.

Once agreement on the draft Final Report has been reached, the Commission Project Manager shall forward the electronic version of this report to the PIER Technology Transfer Group for final editing. Once final editing is completed, the Commission Project Manager shall provide written approval to the Recipient within 2 working days.

- Submit one bound copy of the Final Report with the final invoice.

Products:

- Draft Final Report
- Final Report

MATCH FUNDS, PERMITS, AND ELECTRONIC FILE FORMAT

Task 1.7 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. While the PIER budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of PIER funds during the term of this Agreement. Match funds must be identified in writing, and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Project Manager at least 2 working days prior to the kick-off meeting:
 1. If no match funds were part of the proposal that led to the Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter.
 2. If match funds were a part of the proposal that led to the Commission awarding this Agreement, then provide in the letter:

- A list of the match funds that identifies the:
 - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
 - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- A copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured.
- Discuss match funds and the implications to the Agreement if they are significantly reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Commission Project Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Project Manager within 5 working days if during the course of the Agreement existing match funds are reduced. Reduction in match funds may trigger an additional CPR.

Products:

- A letter regarding Match Funds or stating that no Match Funds are provided
- Letter(s) for New Match Funds
- A copy of each Match Fund commitment letter
- Letter that Match Funds were Reduced (if applicable)

Task 1.8 Identify and Obtain Required Permits

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. While the PIER budget for this task will be zero dollars, the Recipient shall show match funds for this task. Permits must be identified in writing and obtained before the Recipient can incur any costs related to the use of the permits for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Project Manager at least 2 working days prior to the kick-off meeting:
 1. If there are no permits required at the start of this Agreement, then state such in the letter.
 2. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - Schedule the Recipient will follow in applying for and obtaining these permits
- The list of permits and the schedule for obtaining them will be discussed at the kick-off meeting, and a timetable for submitting the updated list, schedule and the copies of the permits will be developed. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the appropriate information on each permit and an updated schedule to the Commission Project Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Project Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Project Manager within 5 working days. Either of these events may trigger an additional CPR.

Products:

- A letter documenting the Permits or stating that no Permits are required
- Updated list of Permits as they change during the Term of the Agreement
- Updated schedule for acquiring Permits as it changes during the Term of the Agreement
- A copy of each approved Permit

Task 1.9 Electronic File Format

The goal of this task is to unify the formats of electronic data and documents provided to the Commission as grant products. Another goal is to establish the computer platforms,

operating systems and software that will be required to review and approve all software products.

The Recipient shall:

- Deliver documents to the Commission Project Manager in the following formats:
 - Data sets shall be in Microsoft (MS) Access or MS Excel file format.
 - PC-based text documents shall be in MS Word file format.
 - Documents intended for public distribution shall be in PDF file format, with the native file format provided as well.
 - Project management documents shall be in MS Project file format.
- Request exemptions to the electronic file format in writing at least 90 days before the product is submitted.

Products:

- A letter requesting exemption from the Electronic File Format (if applicable)

TECHNICAL TASKS

Unless otherwise provided in the individual Task, the Recipient shall prepare all products in accordance with the requirements in Task 1.5.

Task 2 (insert task name)

The goal of this task is to . . . *(Complete the sentence with a brief description of the goal(s). Please be brief, two to three sentences maximum. <please see instructions>)*

The Recipient shall:

- *(Insert verb in active tense) . . . (Complete the sentence.)*
 - *(Insert verb in active tense) . . . (Complete the sentence.)*
- Etc. *<please see instructions>*

Products:

- 1st product (name only)
 - 2nd product (name only)
- Etc. *<please see instructions>*

Task 3 (insert task name)

The goal of this task is to . . . *(Complete the sentence with a brief description of the goal(s). Please be brief, two to three sentences maximum. <please see instructions>)*

The Recipient shall:

- *(Insert verb in active tense) . . . (Complete the sentence.)*
 - *(Insert verb in active tense) . . . (Complete the sentence.)*
- Etc. *<please see instructions>*

Products:

- 1st product (name only)
 - 2nd product (name only)
- Etc. *<please see instructions>*

(add the appropriate number of tasks for your Agreement)

Task n-1 Technology Transfer Activities

The goal of this task is to develop a plan to make the knowledge gained, experimental results and lessons learned available to key decision-makers.

The Recipient shall:

- Prepare a Technology Transfer Plan. The plan shall explain how the knowledge gained in this project will be made available to the public. The level of detail expected is least for research-related projects and highest for demonstration projects. Key elements from this report shall be included in the Final Report for this project.

- Conduct technology transfer activities in accordance with the Technology Transfer Plan. These activities shall be reported in the Monthly Progress Reports.
- Provide a 3-D table-top model of the wind turbine technology for display purposes.

Products:

- Draft Technology Transfer Plan
- Final Technology Transfer Plan
- Table-top model

Task n Production Readiness Plan

The goal of the plan is to determine the steps that will lead to the manufacturing of the technologies developed in this project or to the commercialization of the project's results.

The Recipient shall:

- Prepare a Production Readiness Plan. The degree of detail in the Production Readiness Plan discussion should be proportional to the complexity of producing or commercializing the proposed product and its state of development. The plan shall include, as appropriate, but not be limited to:
 - Identification of critical production processes, equipment, facilities, personnel resources, and support systems that will be needed to produce a commercially viable product;
 - Internal manufacturing facilities, as well as supplier technologies, capacity constraints imposed by the design under consideration, identification of design critical elements and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes;"
 - A projected "should cost" for the product when in production;
 - The expected investment threshold to launch the commercial product;
 - An implementation plan to ramp up to full production.

Products:

- Draft Production Readiness Plan
- Final Production Readiness Plan

Instructions for Completing Attachment A-5, Work Statement

Work Statement

The Attachment A-5 Template contains the framework to use to complete the Work Statement. That template has instructions in blue that are to be deleted as it is filled out. The following are additional instructions for the items in the Work Statement. At the end of these instructions, there are examples of Technical Tasks to provide guidance in drafting your own.

I. Glossary

Spell out each acronym used in the Work Statement. Also include definitions of odd or unusual terms. Think about the document from the perspective of someone who does not work in the particular industry or discipline.

II. Problem Statement

Describe the problem that this research will address in 1 to 2 paragraphs maximum. Describe the scientific and technological baseline, that is, the current state-of-the-art or the developmental status of the subject technology to be advanced.

Identify entities engaged in development of the subject technology. If no one else is performing any related development work, state that explicitly. Identify whether or not the proposed project duplicates or overlaps with other ongoing RD&D.

Emphasize past advances that you have made in areas relevant to the proposed work. Describe your relevant work, accomplishments, failures, ongoing work, RD&D projects, funding levels and funding sources. Be quantitative and rigorous in the discussion. List research papers, conference papers and presentations with full references, and summarize significant accomplishments that have been reported.

Within the technological baseline discussion, explain the status of the proposed technology in general so as to put it within the context of any larger development effort. The discussion could include factors such as developers and manufacturers, development status (whether laboratory scale, alpha testing, beta testing, commercially available), performance characteristics (efficiency, lifetime, emissions and other environmental characteristics including footprint and land requirement), manufacturing cost and selling price, and operation and maintenance costs.

The scientific and technological baseline described here must facilitate the evaluation of the proposed RD&D effort. That is, there must be continuity between the current status of the subject technology and the proposed effort.

Describe the deficiencies that exist for the subject technology. The deficiencies should illuminate the question of *why* the proposed project should be done.

Identify and discuss the principal barriers, key unresolved issues, and knowledge gaps that hinder the development and widespread use of the products of the proposed research in California. Barriers may be grouped under the following categories, or other categories that the Recipient deems appropriate:

- Scientific and technological – such as insufficient scientific understanding of relevant phenomena and processes, inadequate materials, high cost of materials, poor durability, low reliability, low power density, low energy density, lack of detailed engineering designs and design trade-off analyses, inadequate component development, high cost of fabrication techniques, lack of automated manufacturing, insufficient field testing, or insufficient field demonstrations.
- Market – such as inadequate consumer knowledge or limited system supply and maintenance infrastructure.
- Institutional – such as regulatory hurdles (e.g., atmospheric emission limitations) or lack of adopted interconnection standards.
- Environmental – such as NO_x emissions above those set by Air Resources Boards or Districts within California, excessive noise, or high water consumption.

Explain why these barriers have not been addressed by the marketplace or by other institutions.

Explain why the barriers should be addressed at this time. For example, place the proposed work into the context of the spectrum of barriers to widespread deployment and adoption.

III. Relationship to PIER Goals

This project meets the PIER goal of <pick one from the list below> by <fill in the blank with how this goal will be met>. (If applicable, this project also meets the secondary PIER goal of <pick one from the list below> by <fill in the blank with how this goal will be met >.)

PIER Goals

1. Improving the Energy Cost/Value of California's Electricity
2. Improving the Environmental, Public Health, and Safety of California's Electricity
3. Improving the Reliability, Quality, and Sufficiency of California's Electricity
4. Addressing important RD&D gaps
5. Providing greater choices for California consumers
6. Connecting to near-term market applications

IV. Goals of the Agreement

At the beginning of this section, complete the following sentence. Please be succinct.

The goal of this project is to...*(Complete the sentence with a brief description of the goal(s) and how the goal(s) will be met. Goals can be technical, economic or social. Please be brief, two to three sentences maximum.)*

V. Objectives of the Agreement

The objectives of this project are to...(Complete this sentence with the objectives, which are things that will be measurable or knowable at the end of **this** project. *Bidders should determine performance measures that are applicable to their projects.*)

Examples of Performance Measures:

- . . .reduce the cost of electricity generation (or supply) by ____%.
- . . .increase the number of new technologies that are market-ready by ____<fill in the number>.
- . . . increase the adoption by the market of specific technologies by ____%.
- . . . increase the renewable technologies that are cost competitive by ____%.
- . . . increase the new energy systems that can use multiple fuels by ____%.
- . . . decrease end-use consumption in specific energy sectors ____%.
- . . . decrease the system impacts over current best practices by ____%.
- . . .increase the number of market-ready technologies that contribute to reduced risks of increased environmental/health impacts by ____<fill in the number>.
- . . .reduce the interruption frequency and duration per customer type per year by ____<fill in the number>.
- . . .increase the expected number of new technologies providing increased reliability/quality choices to consumers by ____<fill in the number>.
- . . .decrease the rates of injury and fatality associated with electricity generation/supply and usage by ____<fill in the number>.
- . . .determine the effectiveness of the XYZ process.

After completing the sentences above, discuss how and to what degree your proposed project contributes to technology improvement and market introduction and penetration in California.

VI. Task 1.0 Administration

Except for the optional Tasks 1.10, Establish the PAC (Project Advisory Committee), and 1.11, Conduct PAC Meetings, the administrative tasks must be included in every agreement and the language does not change. Do NOT write anything in these areas. In contrast, Tasks 1.10 and 1.11 can be modified as needed. If you have questions about the applicability of some of these tasks to your agreement, please ask.

VII. Technical Tasks (Tasks 2 through n)

This is the area in the Work Statement where the technical work to be performed under this Agreement is set forth. The work effort should be divided into a series of logical, discrete and sequential tasks. Each task has the following components:

- Task Name
- The goal of this task is to . . .
- The Recipient shall:
- Products

A. The Goal

The goal of this task is to . . . (Complete the sentence with a brief description of the goal(s). Please be brief, two to three sentences maximum.)

B. The Recipient shall

List each individual **activity** with a separate bullet and begin each bullet with a verb to complete the sentence beginning with "The Recipient shall." Organize activities in the order in which they will occur. A bullet needs to appear before each activity. Use this section to describe the essential elements of **the process** you will use to complete the project. The **contents** of each **product** shall also be described in this section.

For Example:

The Recipient shall:

- Prepare the X Test Plan. This plan shall include, but not be limited to . . .
- Submit the X Test Plan to the Commission Project Manager . . .
- Conduct research in accordance with the X Test Plan.
- Prepare the X Test Results Report. This report shall include, but not be limited to, the following . . .

(Please note the following:

- **If a project is for demonstration, or if a project involves testing**, one of the tasks should be Test Plan preparation. The Test Plan should include considerations such as the number of hours of operation, the type of monitoring to be preformed, the manner in which data will be validated, analyzed, and reported.)

C. Products:

- 1st product (name only)
- 2nd product (name only)

Only the names of each product shall appear in the "Products" section. Use exactly the same name to identify a product (report, data set, project plan, etc.) in the activity and in the list of products. A bullet needs to appear before each product.

Products are deliverables that incorporate the knowledge and understanding gained by performing the activities and that are submitted to the Commission for review, comment and approval. Products include, but are not limited to, written reports that describe methods, test plans, results of testing, analysis of data, conclusions, and recommendations for future study, workshop agendas and summaries, description and photographs of equipment/product developed, summaries of advisory group meetings, computer software with written instructions for data input and use of the software, if intended for public or Commission use, and production prototypes. The sum of the Products should be sufficiently detailed to be of use to stakeholders and other researchers. The level of detail should be sufficient for an observer to assess whether the project objectives and goals have been successfully met.

D. Task n-1 Technology Transfer Activities

Change the language as appropriate for your project.

E. Task n Production Readiness Plan

Change the language as appropriate for your project.

VIII. Examples of Different Types of Technical Products *(These are examples, which you may modify for use in your project. You may create other products as needed, but please adhere to the patterns shown.)*

1. Notification Letters

- Provide a Notification Letter regarding _____, to the Commission Project Manager. *(Give it a unique name based on the content and the project.)* The letter shall include but not be limited to written documentation that the _____ is ready for *(testing, viewing, submission for certification, etc.)* and the date such *(testing, viewing, submission for certification, etc.)* shall begin, and shall include photographs.

Products:

- Notification Letter regarding _____

2. Test Plans

- Prepare the _____ Test Plan. *(Give it a unique name, such as the Site A Test Plan. Test plans and testing procedures should be described in detail including factors such as instrumentation, data collection, data analysis, statistical analyses, and performance curves. Test results shall include relationships among performance, efficiency, emissions, temperature, pressure and all other parameters that qualify and quantify the subject technology.)* The Test Plan shall include, but not be limited to:
 - a description of the process to be tested;
 - the rationale for why the tests are required;
 - predicted performance based on calculations or other analyses;
 - test objectives and technical approach;
 - a test matrix showing the number of test conditions and replicated runs;
 - a description of the facilities, equipment, instrumentation required to conduct the tests;
 - a description of test procedures, including parameters to be controlled and how they will be controlled; parameters to be measured and instrumentation to measure them; calibration procedures to be used; recommended calibration interval; and maintenance of the test log;
 - a description of the data analysis procedures;
 - a description of quality assurance procedures;
 - contingency measures to be considered if the test objectives are not met;
 - *(add additional bullets specific to the project as needed).*

Products:

- Draft _____ Test Plan
- Final _____ Test Plan

3. Interim Reports *(This applies to all product reports. Examples include task and subtask reports, test reports, data sets, databases and computer model development or application. Monthly reports and the final report are treated separately as shown in the Work Statement.)*

- Prepare the _____ Report *(Give it a unique name, such as the ABC Test Report or 123 Database. If an interim report is based on earlier work in this project, then the titles should relate to each other. After the title insert a description of the product.)* This report shall include, but not be limited to, the following: *(List the elements of the report in separate bullets.)*

For example, if the Interim Report is a Test Report, use the following description:

The Test Report shall include, but not be limited to, the following:

- the Test Plan;
- test results;
- analysis;
- conclusions;
- recommendations;
- photographs as appropriate;
- *(add additional bullets specific to the project as needed).*

For example, if the Interim Report is a Task or Subtask Report, use the following description:

The Task or Subtask Report shall include, but not be limited to, the following:

- the goal of the task or subtask;
- the description of the approach used;
- list of activities performed;
- description of the results and to what degree the goal was achieved;
- significant issues encountered and how they were addressed;
- a discussion of the implications regarding the success or failure of the results, and the effect on the budget and the overall objectives of the project;
- photographs as appropriate;
- *(add additional bullets specific to the project as needed).*

Products:

- Draft _____ Test (Task, Database, etc.) Report
- Final _____ Test (Task, Database, etc.) Report

4. Use this pattern for reports that will be discussed at a Critical Project Review.

- Prepare the draft _____(Report, Test Plan, etc.). This document shall be submitted to the Commission Project Manager in accordance with the procedure for Critical Project Reviews. This document shall include, but not be limited to the following: *(Insert the appropriate bulleted items for either Test Plans in number 2 above or Reports in number 3 above.)*
- Prepare the (1st, 2nd, etc.) Critical Project Review Report.
- Participate in the (1st, 2nd, etc.) Critical Project Review.
- Modify the draft _____(Report, Test Plan, etc.) in accordance with comments received during the Critical Project Review. Once agreement has been reached on the draft, the Recipient shall submit the final product to the Commission Project Manager. The Commission Project Manager shall provide written approval of the final product within 10 working days of receipt. Key elements from this document shall be included in the Final Report for this project.

Products:

- Draft _____ (Report, Test Plan, etc.)
- (1st, 2nd, etc.) Critical Project Review Report(s)
- Final _____ (Report, Test Plan, etc.)

5. Bills of Materials or Equipment Lists

- Prepare a Bill of Materials (or Equipment List) for _____. *(Give it a unique name.)* This document shall include but not be limited to:
 - a description of each item;
 - test protocols and codes applicable to each item;
 - cost estimates or bids for each item.

Products:

- Bill of Materials (or Equipment List) for_____

6. Site Selection (optionally, this language can be incorporated into a Test Plan)

- Determine Site Selection Details for the field test site, including but not limited to the following, and obtain Commission Project Manager approval:
- Type of site, i.e.,
 - Residential
 - Specify type of dwelling: single family, multiple family including number of units, apartment, townhouse, etc.
 - Specify age of dwelling: new home construction, model home, existing home (indicate approximate age)
 - Commercial (specify warehouse, retail, office, etc.)
- Number of sites

- Location, i.e., climate zone, area, or city
 - Timing of testing (i.e., season or month), length and frequency of testing
 - Agreement with site owner, to addresses issues such as:
 - Details of test, including dates, length of test
 - Site owner input and feedback on test conditions
 - Access to site
 - Insurance and indemnity
 - Contingency if damages are caused by test
 - Equipment installation and removal
- Once the site is selected, Recipient shall enter into an agreement with the site owner and make a copy of the agreement available to the Commission Project Manager upon request.

IX. Examples of Technical Tasks

Example 1

Task 2 Develop EGR and Control System On Engine

The goal of this task is to evaluate rich burn EGR engine performance with the pre-production hardware and control system for implementation of EGR on a VGF H24 engine.

The Recipient shall:

- Prepare the draft Rich Burn EGR Engine Test Plan. This Test Plan shall detail the performance evaluation of the rich burn EGR engine. The Test Plan shall include, but not be limited to, the following:
 - a description of the engine system;
 - rationale for conducting the tests;
 - predicted performance based on calculations or other analyses;
 - test objectives and technical approach;
 - a test matrix showing the number of test conditions and replicated runs;
 - a description of the facilities, equipment, instrumentation required to conduct the tests;
 - a description of test procedures, including parameters to be controlled and how they will be controlled; parameters to be measured and instrumentation to measure them; calibration procedures to be used; recommended calibration interval; and maintenance of the test log;
 - a description of the data analysis procedures;
 - a description of quality assurance procedures;
 - contingency measures to be considered if the test objectives are not met.
- Conduct testing as outlined in the Rich Burn EGR Engine Test Plan. This testing shall map engine performance with respect to EGR and equivalence ratio effects on efficiency and emission.
- Prepare the draft Rich Burn EGR Performance Report. This document shall include, but not be limited to, the following:

- the goal of the task or subtask;
- the description of the approach used;
- list of activities performed;
- description of the results and to what degree the goal was achieved;
- significant issues encountered and how they were addressed;
- a discussion of the implications regarding the success or failure of the results, and the effect on the budget and the overall objectives of the project;
- photographs as appropriate.

Products:

- Draft Rich Burn EGR Engine Test Plan
- Final Rich Burn EGR Engine Test Plan
- Draft Rich Burn EGR Performance Report
- Final Rich Burn EGR Performance Report

Example 2

Task 3 4000-Hour Field Test (Note the use of the Critical Project Review)

The goal of this task is to demonstrate the performance of a rich burn EGR engine in a field environment. The field site will be located in California, and a three-way catalyst will be installed on the exhaust to reduce emissions below current California standards.

The Recipient shall:

- Prepare the draft 4000-Hour Field Test Plan. This Test Plan shall detail the field testing of the rich burn EGR engine at a California location. The Test Plan shall include, but not be limited to, the following:
 - a description of the engine system;
 - rationale for conducting the tests;
 - predicted performance based on calculations or other analyses;
 - test objectives and technical approach;
 - a test matrix showing the number of test conditions and replicated runs;
 - a description of the facilities, equipment, instrumentation required to conduct the tests;
 - a description of test procedures, including parameters to be controlled and how they will be controlled; parameters to be measured and instrumentation to measure them; calibration procedures to be used; recommended calibration interval; and maintenance of the test log;
 - a description of the data analysis procedures;
 - a description of quality assurance procedures;
 - contingency measures to be considered if the test objectives are not met.
- Determine Site Selection Details for the field test site, including but not limited to the following, and obtain Commission Project Manager approval:
 - Type of site, i.e.,
--Residential

-Specify type of dwelling: single family, multiple family including number of units, apartment, townhouse, etc.

-Specify age of dwelling: new home construction, model home, existing home (indicate approximate age)

--Commercial (specify warehouse, retail, office, etc.)

- Number of sites
- Location, i.e., climate zone, area, or city
- Timing of testing (i.e., season or month), length and frequency of testing
- Agreement with site owner, to address issues such as:
 - Details of test, including dates, length of test
 - Site owner input and feedback on test conditions
 - Access to site
 - Insurance and indemnity
 - Contingency if damages are caused by test
 - Equipment installation and removal

Once the site is selected, Recipient shall enter into an agreement with the site owner and make a copy of the agreement available to the Commission Project Manager upon request.

- Run engine break-in and power testing per standard engine test procedures at Jane Doe Engine.
- Run engine-generator system load testing per standard test procedures at Jane Doe Power Systems.
- Provide a Notification Letter regarding 4000-Hour Field Test, to the Commission Project Manager. The letter shall include, but not be limited to, the following:
 - written documentation that the 4000-Hour Field Test is ready for testing;
 - the date testing shall begin;
 - photographs as appropriate.
- Conduct testing as outlined in the 4000-Hour Field Test Plan. This testing will monitor engine performance and emissions over 4000-hours of operations.
- Prepare the draft 4000-Hour Field Test Report. This document shall be submitted to the Commission Project Manager in accordance with the procedure for Critical Project Reviews. This document shall include, but not be limited to, the following:
 - the Test Plan;
 - test results;
 - analysis;
 - conclusions;
 - recommendations;
 - photographs as appropriate.
- Prepare the 1st Critical Project Review Report.
- Participate in the 1st Critical Project Review.

- Modify the draft 4000-Hour Field Test Report in accordance with the comments received during the Critical Project Review. The final version of this document shall be submitted to the Commission Project Manager within 10 working days after the Critical Project Review. The Commission Project Manager shall send written notification of approval to the Recipient within 2 working days after receipt. Key elements from this document shall be included in the Final Report for this project.

Products:

- Draft 4000-Hour Field Test Plan
- Final 4000-Hour Field Test Plan
- Notification Letter regarding 4000-Hour Field Test
- Draft 4000-Hour Field Test Report
- 1st Critical Program Review Report
- Final 4000-Hour Field Test Report

Attachment A-6: *Products and Due Dates*

Project Title: _____

PIR-xx-xxx
Applicant's Name

Attachment A-6
Gantt Chart

	2004				2005												2006												2007												2008											
Task	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
1.1					<div>Example Only</div> <div>Delete</div>																																															
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ATTACHMENT A-7.1: *Category Budget Instructions*

All applicants must complete Category Budget forms.

Examples of inputs to the Category Budget forms are provided in < > along with examples of cost inputs. Delete and/or overwrite the sample information with actual applicable information and costs.

PERSONNEL: Specify each name and/or job classification/title, number of hours to work on this project, hourly rate, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. If employees are paid on a monthly versus hourly basis, specify percentage of time to work on this project or number of months to work on this project, monthly rate, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost.

FRINGE BENEFITS: Specify each name and or job classification/title, direct labor cost used to charge fringe benefits rate(s), fringe benefits percentage rate(s), dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost.

TRAVEL: Specify each trip location, purpose of trip, number of people traveling, dollar amount to be reimbursed by the Energy Commission (Travel is reimbursed at State rates), dollar amount to be contributed as match share, and total cost. Any trips that are not included in the grant budget will require prior written authorization from the Energy Commission Project Manager.

EQUIPMENT: Specify each item, quantity of each item, unit description, cost per unit, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. This includes all equipment that will be directly purchased by the Recipient. "Equipment" means tangible non-expendable personal property having a useful life of more than one year and an acquisition cost of \$5000 or more per unit.

MATERIALS: Specify each item, quantity of each item, unit description, cost per unit, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. This includes all supplies having a useful life of less than one year or an acquisition cost of less than \$5000 per unit that will be directly purchased by the Recipient. Similar items can be consolidated into subcategories.

SUBCONTRACTS: Specify each subcontractor name (if known), purpose of each subcontract, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. (This would include subcontracts for the purchase and installation of equipment, etc.)

MISCELLANEOUS: List any miscellaneous items that do not fall into any of the above categories. Specify each item, quantity of each item, unit description, cost per unit, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost.

OVERHEAD: Specify indirect overhead base and general & administrative overhead base (cost categories used to charge overhead rate(s), base cost used to charge overhead rate(s), indirect percentage rate, general & administrative percentage rate, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. State the basis for the proposed overhead cost rates. Attach documentation of calculations. The Energy Commission Project Manager will review the overhead rates and documentation to support the rate. If the rates have been approved by a federal agency, the applicant should submit a copy of the approval.

ATTACHMENT A-7.1: Summary Category Budget

Recipient:

Project Title:

Budget Category Item	Commission Share	Match Share	Total Cost
Personnel:			
Personnel Direct Labor	60,000.00	60,000.00	120,000.00
Fringe Benefits	17,500.00	17,500.00	35,000.00
Total Personal Services	77,500.00	77,500.00	155,000.00
Operating Expenses:			
Travel	1,500.00	1,500.00	3,000.00
Equipment	0.00	22,000.00	22,000.00
Materials	1,000.00	1,000.00	2,000.00
Subcontracts	40,000.00	40,000.00	80,000.00
Miscellaneous	0.00	1,000.00	1,000.00
Total Operating Expenses	42,500.00	65,500.00	108,000.00
Overhead:			
Indirect Overhead	13,150.00	13,150.00	26,300.00
G&A Overhead	6,575.00	6,575.00	13,150.00
Total Overhead	19,725.00	19,725.00	39,450.00
TOTAL COST	\$139,725.00	\$162,725.00	\$302,450.00
	46.20%	53.80%	100.00%
Reconciliation to Detail Category Budget	\$139,725.00	\$162,725.00	\$302,450.00

Recipient: _____
Project Title: _____

[illegible]

Recipient: _____
Project Title: _____

[illegible]

Recipient: _____
Project Title: _____

[illegible]

Attachment A-7.1

Recipient:
Project Title:

[illegible]

Recipient:
Project Title:

[illegible]

Recipient: _____
Project Title: _____

[illegible]

Recipient:
Project Title:

[illegible]

ATTACHMENT A-7.1: Detail Category Budget

Prime Recipient's Indirect Overhead and General & Administrative Overhead

Recipient:

Project Title:

Indirect Overhead

Indirect Overhead Base*	Base Cost	ID % Rate	Commission Share	Match Share	Total Cost
<Total Direct Costs>	263,000.00	10.00%	13,150.00	13,150.00	26,300.00

General & Administrative Overhead

G&A Overhead Base*	Base Cost	G&A % Rate	Commission Share	Match Share	Total Cost
<Total Direct Costs>	263,000.00	5.00%	6,575.00	6,575.00	13,150.00

*Base: Define cost categories used to charge overhead rate(s). (e.g. Total Labor, Total Direct Cost, Total Costs, etc.)

ATTACHMENT A-7.1: *Category Budget Instructions*

All applicants must complete Category Budget forms.

Examples of inputs to the Category Budget forms are provided in < > along with examples of cost inputs. Delete and/or overwrite the sample information with actual applicable information and costs.

PERSONNEL: Specify each name and/or job classification/title, number of hours to work on this project, hourly rate, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. If employees are paid on a monthly versus hourly basis, specify percentage of time to work on this project or number of months to work on this project, monthly rate, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost.

FRINGE BENEFITS: Specify each name and or job classification/title, direct labor cost used to charge fringe benefits rate(s), fringe benefits percentage rate(s), dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost.

TRAVEL: Specify each trip location, purpose of trip, number of people traveling, dollar amount to be reimbursed by the Energy Commission (Travel is reimbursed at State rates), dollar amount to be contributed as match share, and total cost. Any trips that are not included in the grant budget will require prior written authorization from the Energy Commission Project Manager.

EQUIPMENT: Specify each item, quantity of each item, unit description, cost per unit, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. This includes all equipment that will be directly purchased by the Recipient. "Equipment" means tangible non-expendable personal property having a useful life of more than one year and an acquisition cost of \$5000 or more per unit.

MATERIALS: Specify each item, quantity of each item, unit description, cost per unit, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. This includes all supplies having a useful life of less than one year or an acquisition cost of less than \$5000 per unit that will be directly purchased by the Recipient. Similar items can be consolidated into subcategories.

SUBCONTRACTS: Specify each subcontractor name (if known), purpose of each subcontract, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. (This would include subcontracts for the purchase and installation of equipment, etc.)

MISCELLANEOUS: List any miscellaneous items that do not fall into any of the above categories. Specify each item, quantity of each item, unit description, cost per unit, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost.

OVERHEAD: Specify indirect overhead base and general & administrative overhead base (cost categories used to charge overhead rate(s), base cost used to charge overhead rate(s), indirect percentage rate, general & administrative percentage rate, dollar amount to be reimbursed by the Energy Commission, dollar amount to be contributed as match share, and total cost. State the basis for the proposed overhead cost rates. Attach documentation of calculations. The Energy Commission Project Manager will review the overhead rates and documentation to support the rate. If the rates have been approved by a federal agency, the applicant should submit a copy of the approval.

ATTACHMENT A-7.1: Summary Category Budget

Recipient: _____
Project Title: _____

Budget Category Item	Commission Share	Match Share	Total Cost
Personnel:			
Personnel Direct Labor	60,000.00	60,000.00	120,000.00
Fringe Benefits	17,500.00	17,500.00	35,000.00
Total Personal Services	77,500.00	77,500.00	155,000.00
Operating Expenses:			
Travel	1,500.00	1,500.00	3,000.00
Equipment	0.00	22,000.00	22,000.00
Materials	1,000.00	1,000.00	2,000.00
Subcontracts	40,000.00	40,000.00	80,000.00
Miscellaneous	0.00	1,000.00	1,000.00
Total Operating Expenses	42,500.00	65,500.00	108,000.00
Overhead:			
Indirect Overhead	13,150.00	13,150.00	26,300.00
G&A Overhead	6,575.00	6,575.00	13,150.00
Total Overhead	19,725.00	19,725.00	39,450.00
TOTAL COST	\$139,725.00	\$162,725.00	\$302,450.00
	46.20%	53.80%	100.00%
Reconciliation to Detail Category Budget	\$139,725.00	\$162,725.00	\$302,450.00

Recipient: _____
Project Title: _____

[illegible]

Recipient:
Project Title:

[illegible]

Recipient: _____
Project Title: _____

[illegible]

Attachment A-7.1

Recipient:
Project Title:

[illegible]

Recipient:
Project Title:

[illegible]

Recipient: _____
Project Title: _____

[illegible]

Recipient:
Project Title:

[illegible]

ATTACHMENT A-7.1: Detail Category Budget

Prime Recipient's Indirect Overhead and General & Administrative Overhead

Recipient:

Project Title:

Indirect Overhead

Indirect Overhead Base*	Base Cost	ID % Rate	Commission Share	Match Share	Total Cost
<Total Direct Costs>	263,000.00	10.00%	13,150.00	13,150.00	26,300.00

General & Administrative Overhead

G&A Overhead Base*	Base Cost	G&A % Rate	Commission Share	Match Share	Total Cost
<Total Direct Costs>	263,000.00	5.00%	6,575.00	6,575.00	13,150.00

*Base: Define cost categories used to charge overhead rate(s). (e.g. Total Labor, Total Direct Cost, Total Costs, etc.)

Instructions for Task Budget

I. General Instructions for Completing the Spreadsheets in this Workbook

This workbook contains spreadsheets for the Task Budget forms for the Recipient and includes information on subcontractors. Specific instructions for each of the spreadsheets in this workbook are below. Do NOT rename the Tabs. Spreadsheets are formula based and links to tabbed pages will be lost if changed.

The electronic version of these documents shows cells of different color. Fill in only the non-colored cells for each of the spreadsheets. Do NOT enter data in the blue cells. Blue cells contain formulas or data transferred from other spreadsheets. Blue cells and many of the yellow cells (headings) are protected to prevent accidental changes. However, there is no password, so if you are experienced with Excel and need to make changes you can do so.

II. Instructions For Task Budget Forms

The Prime Recipient must submit information on all the Budget forms. Columns are provided for major and minor subcontractor information by tasks. (Definition: A "Major" Subcontractor is one that receives either 25% or \$100,000 or more of PIER funds. "Minor" Subcontractors, i.e., those either receiving less than 25% or less than \$100,000 of PIER funds.)

THE RATES IDENTIFIED IN YOUR BUDGET BECOME PART OF THE GRANT AGREEMENT AND MAY NOT BE CHANGED WITHOUT PRIOR APPROVAL. YOU MAY PROVIDE A SALARY RATE OR RANGE BY NAME OR CLASSIFICATION. THE SALARY RATE IS CAPPED, THE TOP OF EACH RANGE IS CAPPED FOR REIMBURSEMENT BY THE COMMISSION. THE COMMISSION WILL REIMBURSE ONLY ACTUAL COSTS WITHIN THE CAPPED RATE OR RANGE. AVERAGE RATES ARE NOT ACCEPTABLE.

Except as provided for in the grant agreement, Recipients shall use the appropriate Federal OMB Circulars A-87, A-21, A-122 or FAR Part 31 in determining allowable and unallowable costs.

A. Budget Summary (Tab: Summary)

Do **not** enter any data in this spreadsheet. These are the total task budgets, and the amounts will automatically fill in once information is entered on the individual task budgets.

B. PIER Budget (Tab: Prime-PIER, enter subcontractor information in columns provided.)

Generally, fill in the PIER reimbursable amounts for each Task.

Instructions for Task Budget

Rows

For Task 1.1, Kick-off Meeting, and Task 1.3, Final Meeting, budget for the number of technical and administrative personnel who will be attending the meeting with PIER staff in Sacramento.

Tasks 1.5 and 1.9 do not require funding, which is why the budgets for these tasks are listed as zero.

Tasks 1.7 and 1.8 are not reimbursable with PIER funds. Match funds must be used for them.

For Task 1.6, the Final Report, budget for 1 month for your top technical person and/or best technical writer.

Columns

For all columns under Project Operating Expenses each project operating expense should include, if applicable, direct overhead.

For any amounts listed in the "Travel" column, for any amounts over \$5,000 listed in the "Equipment" column, and for totals over \$5,000 in either of the columns "Materials" and "Miscellaneous", both the Recipient and Major/Minor Subcontractors must provide details of these expenditures in tables in the Category Budget Forms.

C. Match Budget (Tab: Prime-Match, include subcontractor information in columns provided.)

Fill in the amounts of match funding in each of the cells except for the rows of Task 1.5 and 1.9 and for the column "Major/Minor Subcontractors." Tasks 1.5 and 1.9 do not have any expenses associated with them.

**Attachment A-7.2
Budget Summary**

Summary Project Task Budget		PIER Reimbursable Task Costs	Task Match Funds	Total Task Costs
Insert Name of Company or Organization				
Task 1	Administration	0	0	0
Project Technical Activities				
Task 2	Name of Task 2	0	0	0
Task 3	Name of Task 3	0	0	0
Task 4	Name of Task 4	0	0	0
Task 5	Name of Task 5	0	0	0
Task 6	Name of Task 6	0	0	0
Task 7	Name of Task 7	0	0	0
Task 8	Name of Task 8	0	0	0
Task 9	Name of Task 9	0	0	0
Task 10	Name of Task 10	0	0	0
Task 11	Name of Task 11	0	0	0
Task 12	Name of Task 12	0	0	0
Task 13	Name of Task 13	0	0	0
Task 14	Name of Task 14	0	0	0
Task 15	Name of Task 15	0	0	0
Task 16	Name of Task 16	0	0	0
Task 17	Name of Task 17	0	0	0
Task 18	Name of Task 18	0	0	0
Task 19	Name of Task 19	0	0	0
Task 20	Name of Task 20	0	0	0
Technical Activities Subtotals		0	0	0
Project Totals		Total PIER Cost	Total Match Funds	Total Project Cost
		0	0	0

Attachment A-7.2, Table 1
Prime Recipient PIER Budget

Budget for PIER Reimbursement to Prime Recipient		Personal Services		Project Operating Expenses (1)						Fees		PIER Reimbursable Task Costs
Insert Name of Company or Organization		Direct Labor	Fringe Benefits	Materials	Equipment	Travel	Misc.	Minor Subcontractors	Major Subcontractors (2)	Indirect Overhead	G&A	
1.0 Project Administration Activities												
1.1	Attend Kick-off Meeting											0
1.2	CPR Meetings											0
1.3	Final Meeting											0
1.4	Monthly Progress Reports											0
1.5	Test Plans, Technical Reports and Interim Deliverables	0	0	0	0	0	0	0	0	0	0	0
1.6	Final Report											0
1.6.1	Final Report Outline											0
1.6.2	Final Report											0
1.7	Identify and Obtain Matching Funds	0	0	0	0	0	0	0	0	0	0	0
1.8	Identify and Obtain Required Permits	0	0	0	0	0	0	0	0	0	0	0
1.9	Electronic File Format	0	0	0	0	0	0	0	0	0	0	0
1.10	Models											
	Administration Activities Subtotals	0	0	0	0	0	0	0	0	0	0	0
Project Technical Activities (Delete rows as necessary)												
Task 2	Name of Task 2											0
Task 3	Name of Task 3											0
Task 4	Name of Task 4											0
Task 5	Name of Task 5											0
Task 6	Name of Task 6											0
Task 7	Name of Task 7											0
Task 8	Name of Task 8											0
Task 9	Name of Task 9											0
Task 10	Name of Task 10											0
Task 11	Name of Task 11											0
Task 12	Name of Task 12											0
Task 13	Name of Task 13											0
Task 14	Name of Task 14											0
Task 15	Name of Task 15											0
Task 16	Name of Task 16											0
Task 17	Name of Task 17											0
Task 18	Name of Task 18											0
Task 19	Name of Task 19											0
Task 20	Name of Task 20											0
	Technical Activities Subtotals	0	0	0	0	0	0	0	0	0	0	0
Prime Contractor		Direct Labor	Fringe Benefits	Materials	Equipment	Travel	Misc.	Minor Subcontractors	Major Subcontractors	Indirect Overhead	G&A	Total PIER Reimbursable Cost
PIER Reimbursable Totals		0	0	0	0	0	0	0	0	0	0	0
Percent of the Total		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total project expenses =										0	Total overhead & profit =	

- (1) Each project operating expense should include, if applicable, direct overhead.
(2) Subcontracts worth \$100,000 or 25% of the total award, whichever is less.
(3) Prime Contractor profit not allowed on Subcontractor invoices and profit cannot exceed 10% of the PIER funds allocated to the Task.

Attachment A-7.2, Table 2
Prime Recipient Match Budget

Budget for Match Funding Supplied by Prime Recipient		Personal Services		Project Operating Expenses						Fees		Prime's Total Task Match Funds
Insert Name of Company or Organization		Direct Labor	Fringe Benefits	Materials	Equipment	Travel	Misc.	Minor Subcon-tractors	Major Subcon-tractors	Indirect Overhead	G&A	
1.0 Project Administration Activities												
1.1	Attend Kick-off Meeting											0
1.2	CPR Meetings											0
1.3	Final Meeting											0
1.4	Monthly Progress Reports											0
1.5	Test Plans, Technical Reports and Interim Deliverables	0	0	0	0	0	0	0	0	0	0	0
1.6	Final Report											0
1.6.1	Final Report Outline											0
1.6.2	Final Report											0
1.7	Identify and Obtain Matching Funds											0
1.8	Identify and Obtain Required Permits											0
1.9	Electronic File Format	0	0	0	0	0	0	0	0	0	0	0
1.10	Models											
	Administration Activities Subtotals	0	0	0	0	0	0	0	0	0	0	0
Project Technical Activities (Delete rows as necessary)												
Task 2	Name of Task 2											0
Task 3	Name of Task 3											0
Task 4	Name of Task 4											0
Task 5	Name of Task 5											0
Task 6	Name of Task 6											0
Task 7	Name of Task 7											0
Task 8	Name of Task 8											0
Task 9	Name of Task 9											0
Task 10	Name of Task 10											0
Task 11	Name of Task 11											0
Task 12	Name of Task 12											0
Task 13	Name of Task 13											0
Task 14	Name of Task 14											0
Task 15	Name of Task 15											0
Task 16	Name of Task 16											0
Task 17	Name of Task 17											0
Task 18	Name of Task 18											0
Task 19	Name of Task 19											0
Task 20	Name of Task 20											0
	Technical Activities Subtotals	0	0	0	0	0	0	0	0	0	0	0
Prime Contractor		Direct Labor	Fringe Benefits	Materials	Equipment	Travel	Misc.	Minor Subcon-tractors	Major Subcon-tractors	Indirect Overhead	G&A	Total Match Funds
Match Funds Totals		0	0	0	0	0	0	0	0	0	0	0
Percent of the Total		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total project expenses =										0	Total overhead & profit =	

Attachment A-8: *Permits*

If applicable, Applicants are required to complete Attachment A-8 for the application.

PERMITS

List of Permits:

Attachment A-9:

Confidential Products and Pre-existing Intellectual Property Lists

All Applicants must complete Attachment A-9 for the application if the Applicant plans to submit Confidential Products with the proposal or during the course of the grant. The Applicant must also complete this attachment if it plans to use pre-existing intellectual property during the course of the grant. Instructions are included below.

PART I: CONFIDENTIAL PRODUCTS

Pursuant to 20 California Code of Regulations section 2505(c)(2)(B), the Commission designates the following as confidential.

☐ **No: Confidential Proposal Products are NOT Submitted with the Application.**

☐ **Yes: Confidential Proposal Products are Submitted with the Application.**

AND

☐ **No: Confidential Project Products will NOT be submitted with the Funding Agreement.**

☐ **Yes: Confidential Project Products will be submitted with the Funding Agreement.**

Description of Information to be Kept Confidential: <ul style="list-style-type: none">• Title of document/name of product• Task Number• Portion of document to be kept confidential• General description of the Technology to be kept confidential.	Legal Basis for Confidential Designation: <ul style="list-style-type: none">• Trade Secret<ul style="list-style-type: none">--Technical--Business--Marketing--Economic/Financial• Patent application number	Term of Confidentiality

PART II: PREEXISTING INTELLECTUAL PROPERTY

Applicant has identified the following intellectual property as pre-existing the effective date of this application and is required for performance of the *Work Statement* of this application, but is not a product.

☐ **No: Pre-existing Intellectual Property**

OR

☐ **Yes: Pre-existing Intellectual Property (Please insert "none" in the types that do not apply):**

Patents Issued

Title	Patent Number	Inventors/ Assignee (Owner)	File Date	Issue/ Grant Date	Country	Public Description

Patent Applications

Title	File Date	Public Description (2-3 sentences)

Trade Secrets

Title	Public Description (2-3 sentences)

Copyrights

Title	Copyright Number	Owner	File Date	Issue/ Grant Date	Country	Public Description

Trademarks

Title	Trademark Number	Owner	File Date	Issue/ Grant Date	Country	Public Description

Disclosure Memos

Title	Disclosure Date	Memo Number, if applicable	Public Description (2-3 sentences)

Invention Berkeley (DOE National Labs Only)

Title	Number	Date

INSTRUCTIONS

ATTACHMENT A-9

Confidential Products and Preexisting Intellectual Property Lists

In the event the Applicant feels the project will include information claimed as confidential in a product and shall be listing pre-existing intellectual property items, then please read the following instructions carefully before completing Attachment A-9. The information provided by the Applicant will help the Commission in making a determination as to whether or not a confidential designation will be needed or allowed.

PART I: CONFIDENTIAL PRODUCTS

1. Please check the appropriate box, either that there are or are not confidential products as part of this Agreement. If there are, please adhere to the following instructions.

2. What is NOT a proper basis for confidential designation?

- Scope of Work (including task descriptions, schedule of deliverables, due dates)
- Proposed budgets
- Names of employees, subcontractors and match fund participants
- Test plans and reports
- Progress reports
- Final reports

3. What is the proper basis for confidential designation?

A. Patent application number:

- The number will not be put in the agreement, only a reference to “patent application.”
- The Applicant must submit the patent application number, which will be kept in a confidential file, to the Commission.
- Information already patented does not need confidential designation.

B. Trade Secrets, there are four types of trade secrets typically relevant to PIER agreements:

- Technical trade secrets
(i.e., technical drawings or description of technology not patented);
- Business trade secrets
(i.e., energy use data for an individual facility; pending strategic partnership with a manufacturer);
- Marketing trade secrets
(i.e., market projections or strategies);
- Economic/financial trade secrets
(i.e., product price and cost flow projections).

4. Complete the Chart Below

Three types of information must be provided for confidential products: "Description of Information to be Kept Confidential," "Legal Basis for Confidential Designation," and "Term of Confidentiality."

A. Description of Information to be Kept Confidential

- Describe the technology in general terms that can be included in the agreement, which is a public document. Be specific enough to describe what needs to be kept confidential, without disclosing information that is a trade secret. Also include a description of any report/document that contains the trade secret, and the date of the document, if applicable.

B. Legal Basis for Confidential Designation

- Choose the appropriate legal basis (please see the example below).

C. Term of Confidentiality

- In general, the term of confidentiality is through the end term of the agreement. If the Applicant wants a longer term, the Applicant must identify a reason. In cases where a patent application is involved, the term is usually 3 years from the effective date of the agreement.

EXAMPLE:

Description of Information to be Kept Confidential: <ul style="list-style-type: none"> • Title of document/name of deliverable • Date of document, if applicable • Task Number • Portion of document to be kept confidential • General description of the technology to be kept confidential 	Legal Basis for Confidential Designation: <ul style="list-style-type: none"> • Patent application number • Trade Secret <ul style="list-style-type: none"> --Technical --Business --Marketing --Economic/Financial 	Term of Confidentiality: <ul style="list-style-type: none"> • Through end term of agreement. • For patent application numbers, 3 years from effective date of agreement.
<ul style="list-style-type: none"> • Confidential Technical Challenges Report • Date n/a • Task 4 • Entire document • Applicant is attempting to improve the efficiency and lower the cost of natural-gas-fired absorption chillers used to cool commercial buildings. This project will develop and test metal coatings, which are applied to low-cost steels to resist brine-caused corrosion. If effective, these coatings can make low-cost steels corrosion resistant, and absorption chiller components can be made of them, thereby lowering their cost. Energy efficiency would be improved by operating the chiller at high temperatures without risk of component corrosion. 	<p>The Commission determines that the report constitutes technical trade secrets, disclosure of which would deprive Applicant of its competitive advantage.</p>	<p>The term of confidentiality will last through the end term of the agreement (March 31, 2007).</p>
<ul style="list-style-type: none"> • Patent application number 	<p>Patent application number</p>	<p>The term of confidentiality will last for three years from the effective date of this agreement (July 1, 2006) by which time it is presumed that Applicant will have perfected its rights through the United States Patent Office.</p>

PART II: PRE-EXISTING INTELLECTUAL PROPERTY

1. Please check the appropriate box, either that there is or is not pre-existing intellectual property as part of this Agreement. If there is, please adhere to the following instructions.
2. List intellectual property belonging to the prime Applicant and all subcontractors that existed before Commission funding begins.
3. List only intellectual property that will actually be used in performing the agreement. Do not list patents or trade secrets that are irrelevant to this agreement.
4. The reason for including this list is to determine royalty obligations. Royalty payments are triggered for technology that is sold only for the portion of the technology developed with Commission funds. If the technology used pre-existing intellectual property, then royalty obligations are not triggered.

EXAMPLES:

Patents Issued

Title	Patent Number	Inventor/ Assignee (Owner)	File Date	Issue/ Grant Date	Country	Description
Blue Light Emitting Diode Formed in Silicon Carbide	4,918,497	Cree Research, Inc.	12/14/88	4/17/90	USA	A light emitting diode formed in silicon carbide that emits visible light having a wavelength of between about 475-480 nanometers, or between about 455-460 nanometers, or between about 424-428 nanometers.

Patent Application*

Title	File Date	Public Description (2-3 sentences)
Optimal Portfolio Methodology for Assessing Distributed Energy Resources Benefits to the Energynet	9/1/02	This methodology has been developed as a detailed work plan for a demonstration based on the use of data for the SVP T&D network along with GE PSLF and Optimal's Aempfast system analysis packages. The work performed under this agreement represents the first demonstration and use of this methodology.

*For Patent Application numbers submitted as a confidential deliverable, please see instructions for confidential deliverables.

Trade Secret

Title	Public Description (2-3 sentences)
Advanced Energy Management and Power Flow Analysis Systems Technology (Aempfast)	Aempfast consists of various software and hardware technologies, algorithms, and processes for optimization and analysis of electric power systems, which are complex, non-linear networks. Aempfast provides a set of power optimization and management tools that intelligently and simultaneously solve for competing objectives in the planning and operation of any power grid. There are diverse analytical features in Aempfast that can be used to address and apply many different constraints on a network, including both "equality constraints" and "inequality constraints," while optimizing the subject network.

Copyright

Title	Copyright Number	Owner	File Date	Issue/Grant Date	Country	Description
RL23 Design Software	554455	Widgets R Us, Inc.	9/1/98	12/20/00	Canada	Software for design and customization of commercial water heating units in multiple story buildings

Trademark

Title	Trademark Number	Owner	File Date	Issue/Grant Date	Country	Description
ENERGY STAR®	1999485	Environmental Protection Agency, Federal	4/12/95	9/10/96	USA	Typed drawing, service mark.

		Agency, United States				
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Disclosure Memos

Title	Disclosure Date	Memo Number, if Applicable	Public Description (2-3 sentences)
Reactor for converting hydrocarbon fuels to hydrogen	3/3/01	37654-2	Apparatus for utilization of the unmixed reforming process for the production of high purity hydrogen from diesel or strategic fuel. This invention will lock in the key design features needed for application of unmixed reforming to onboard applications such as automobiles or transportable power sources.

Invention Berkely (DOE National Labs Only)

Title	Number	Date
Manufacturing Energy Efficient Roofing Tiles	IB 1723	9-20-89

TERMS AND CONDITIONS

PUBLIC INTEREST ENERGY RESEARCH GRANTS

AWARD # - -



TERMS AND CONDITIONS

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TERMS AND CONDITIONS

1. *Grant Agreement*

This project is being funded with a grant from the California Energy Commission (Commission). Funding for this project was authorized by Senate Bill No. 90, Chapter 905, Statutes of 1997, and consists of funds from the Public Interest Research, Development, and Demonstration Fund.

Program refers to the entire effort undertaken and planned by the Recipient including the work co-funded by the Commission. The program may coincide with or extend beyond the Agreement period. **Project** refers to the work elements of the program. Typically, there are distinct projects within the program being paid for by the Commission under this Agreement.

This Agreement is comprised of the grant funding award, the Terms and Conditions, and all attachments. These Terms and Conditions are standard requirements for Public Interest Energy Research (PIER) grant awards. The Commission may impose special conditions in this grant Agreement which address the unique circumstances of this project. Special conditions that conflict with these standard provisions take precedence. Any special conditions are attached to this Agreement.

The Recipient shall sign all six copies of this Agreement and return five signed packages to the Commission's Grants and Loans Office within 30 days. Failure to meet this requirement may result in the forfeiture of this award. When all required signatures are obtained, an executed copy will be returned to the Recipient.

Commission-funded work and/or the expenditure of Commission funds must occur within the term of this Agreement. However, the Commission cannot authorize any payments until all parties sign this Agreement.

2. *Attachments and References*

The following are attached and hereby expressly incorporated into this Agreement.

- Work Statement
- Budget
- Resolution of the Recipient or Local Jurisdiction Governing Body (if applicable)
- Resolution of the California Energy Commission
- Content and Format of Progress Reports
- Format for Final Reports
- Confidentiality Exhibit (if applicable)
- Intellectual Property Exhibit (if applicable)
- Special Conditions (if applicable)

The Office of Management and Budget (OMB) Circulars and/or federal regulations identified below are incorporated by reference as part of this Agreement. These Terms and

Conditions and any Special Conditions take precedence over the circulars and/or regulations. The OMB Circulars and federal regulations are used to help guide the administration of the award when questions arise during the course of performance of the award. The Commission reserves the right to use as much or as little of each circular or regulation it deems necessary to administer the award in good faith and consistent with prudent fiscal management of public funds. OMB Circulars may be accessed on the OMB web site at www.whitehouse.gov/omb/circulars/index.html and federal regulations may be accessed at www.arnet.gov/far/, or by calling the Office of Administration, Publications Office, at (202) 395-7332.

- Common Rule for Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
- OMB Circular A-110: Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (also applicable to private entities)
- 10 CFR Part 600: DOE Financial Assistance Regulations (www.pr.doe.gov/f600toc.html)
- OMB Circular A-87: Cost Principles for State, Local and Tribal Governments
- OMB Circular A-21: Cost Principles Applicable to Grants, Contracts, and Other Agreements with Institutions of Higher Education (public and private colleges and universities)
- OMB Circular A-122: Cost Principles Applicable to Grants, Contracts, and Other Agreements with Non-Profit Organizations (non-profit organizations and individuals, except for those specifically exempted)
- OMB Circular A-133: Audits of States, Local Governments, and Non-Profit Organizations
- Title 48 CFR, Ch. 1, Subpart 31.2: Contracts with Commercial Organizations (Supplemented by 48 CFR, Ch. 9, Subpart 931.2 for Department of Energy grants) (commercial firms and certain non-profit organizations) (www.access.gpo.gov/nara/cfr/cfr-table-search.html)

3. *Funding Limitations*

Any federal, state, and local laws and regulations applicable to your project not expressly listed in this Agreement are incorporated herein as part of this Agreement.

4. *Due Diligence*

The Recipient is required to take timely actions which, taken collectively, move this project to completion. The Commission Project Manager will periodically evaluate the schedule for completion of Work Statement tasks. If the Commission Project Manager determines (1) the Recipient is not being diligent in completing the tasks in the Work Statement or (2) the time remaining in the funding award is insufficient to complete all project work tasks not later than the Agreement term date, the Project Manager may recommend to the Policy Committee of the Commission (Committee) that this Agreement be terminated, and the Committee may, without prejudice to any of its remedies, terminate this Agreement.

5. *Products*

Products are defined as any tangible item specified in the Work Statement. Unless otherwise directed, draft copies of all products identified in the Work Statement shall be submitted to the Commission's Accounting Office at the address below. The Accounting Office will forward products to the Commission Project Manager for review and comment. The Recipient will submit an original and two copies of the final version of all products to the Accounting Office. If the Commission Project Manager determines a product is substandard, given the description and intended use of the product as described in the Work Statement and the grant application, the Commission Project Manager may refuse to authorize payment for the product and any subsequent products that rely upon or are based upon that product under this Agreement.

California Energy Commission
Accounting Office
PIER Grant Program
1516 Ninth Street, MS-2
Sacramento, CA 95814

6. *Reports*

a. Submission of Reports

All reports will be submitted to the Accounting Office at the address listed in Section 5 above.

b. Progress Reports

The Recipient shall prepare progress reports on the schedule provided in the work statement. The Recipient shall prepare progress reports which summarize all grant activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the project within the current budget and any anticipated cost overruns.. See Attachment 1 "Content and Format of Progress Reports" for more information.

c. Final Reports

The Recipient shall prepare a final report outline, draft final report and final report on the schedule provided in the work statement. The final report shall describe the original purpose, approach, results and conclusions of the work done under this Agreement. See Attachment 2 “Format of Final Report” for more information.

Upon receipt of the final report, the Commission Project Manager shall ensure that all work has been satisfactorily completed. The Payment Request for the final payment (including any retention) may only be submitted after the final report is completed and the Commission Project Manager has verified satisfactory completion of the work.

d. Rights in Reports

The Commission reserves the right to use and reproduce all reports and data produced and delivered pursuant to this Agreement, and reserves the right to authorize others to use or reproduce such materials. Each report becomes the property of the Commission.

e. Failure to Comply with Reporting Requirements

Failure to comply with the reporting requirements contained in this award will be considered a material noncompliance with the terms of the award. Noncompliance may result in withholding of future payments, suspension or termination of the current award, and withholding of future awards.

7. *Legal Statement on Reports and Products*

No product or report produced as a result of work funded by this program shall be represented to be endorsed by the Commission, and all such products or reports shall include the following statement:

LEGAL NOTICE

This document was prepared as a result of work sponsored by the California Energy Commission. It does not necessarily represent the views of the Energy Commission, its employees, or the State of California. The Commission, the State of California, its employees, contractors, and subcontractors make no warranty, express or implied, and assume no legal liability for the information in this document; nor does any party represent that the use of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Commission nor has the Commission passed upon the accuracy of the information in this report.

8. *Amendments*

Changes to the Work Statement, changes to specific line items in the budget, or both, may be made under certain conditions. Such changes must not alter the original scope or purpose of the project or program as proposed in the grant application. Such changes must not appreciably affect the value of the project or program. Recipient shall provide reasonable advance notification to the Commission Project Manager of any anticipated budget reallocations. Budget reallocations that do not substantially change the Scope of Work will be made in the following manner. Recipient may reallocate a task budget up to fifteen percent (15%) of the original task amount, with prior written notification to the Commission Project Manager. Reallocations of more than fifteen percent (15%) of an original task budget require prior written approval of the Commission Project Manager and the Energy Commission's Program Team Lead. The Commission Project Manager will notify the Recipient's Project Manager in writing of the approval within ten (10) working days. The Commission's Project Manager shall send approved changes in a revised Budget Exhibit to the Commission's Grants and Loans Office.

9. *Contracting and Procurement Procedures*

This section provides general requirements for an agreement between the Recipient and a third party ("subcontractor").

The Recipient is required, where feasible, to employ contracting and procurement practices that promote open competition for all goods and services needed to complete this project. Recipient shall obtain price quotes from an adequate number of sources for all subcontracts.

Additional subcontracting criteria are specified in the applicable OMB Circulars and/or federal regulations incorporated by reference in this Agreement.

Upon request, the Recipient must submit to the Commission Project Manager a copy of all solicitations for services or products required to carry out the terms of this Agreement, copies of the proposals or bids received, and copies of subcontracts executed. If a specific subcontractor was identified in the original grant application and the grant was evaluated based in part on this subcontractor's qualifications, then prior written approval from the Commission Project Manager is required before substituting a new subcontractor. (See Key Personnel and Key Subcontractors.)

The Recipient is responsible for handling all contractual and administrative issues arising out of or related to any subcontracts it enters into under this Agreement.

All subcontracts must incorporate all of the following

- A clear and accurate description of the material, products, or services to be procured as well as a detailed budget and timeline.
- Provisions which allow for administrative, contractual, or legal remedies in instances where subcontractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate.
- Provisions for termination by the Recipient including termination procedures and the basis for settlement.
- Any additional requirements specified in the OMB Circulars and/or federal regulations incorporated by reference in this Agreement.
- Further assignments shall not be made to any third or subsequent tier subcontractor without additional advance written consent of the Commission.

All subcontracts must also incorporate language conforming to the following provisions specified in this Agreement, and these provisions shall expressly flow down to all subcontractors:

- Standard of Performance
- Audit
- Nondiscrimination
- Indemnification
- Rights of Parties Regarding Intellectual Property

- Intellectual Property Items Developed Prior to this Agreement
- Travel and Per Diem
- Equipment
- Disputes
- Confidentiality
- Recordkeeping, Cost Accounting, and Auditing
- Access to Sites and Records
- Legal Notice
- Survival of the following sections:
 - a) Recordkeeping, Cost Accounting and Auditing
 - b) Audit
 - c) Equipment
 - d) Rights of Parties Regarding Intellectual Property
 - e) Access to Sites and Records

Nothing contained in this Agreement or otherwise, shall create any contractual relation between the Commission and any subcontractors, and no subcontract shall relieve the Recipient of its responsibilities and obligations hereunder. The Recipient agrees to be as fully responsible to the Commission for the acts and omissions of its subcontractors or persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by the Recipient. The Recipient's obligation to pay its subcontractors is an independent obligation from the Commission's obligation to make payments to the Recipient. As a result, the Commission shall have no obligation to pay or to enforce the payment of any monies to any subcontractor.

Recipient shall be responsible for establishing and maintaining contractual agreements with and reimbursement of each subcontractor for work performed in accordance with the terms of this Agreement.

Replacement or substitution of all non-key subcontractors is permitted with reasonable advance written notification to the Commission Project Manager.

All subcontracts entered into pursuant to this Agreement shall be subject to examination and audit by the Bureau of State Audits for a period of three years after final payment under this Agreement.

Failure to comply with the above requirements may result in the termination of this Agreement.

10. *Key Personnel and Key Subcontractors*

a. Key Personnel

Key personnel are employees of the Recipient who are critical to the outcome of the project. For example, they may have expertise in the particular field or have

experience that is not available from another source. Replacing these individuals may affect the outcome of the project. Key personnel, listed in the Budget exhibit, may not be substituted without the Commission Project Manager's approval. Such approval shall not be unreasonably withheld. Recipient may substitute all other personnel, with reasonable advance notification made to the Commission Project Manager.

b. Key Subcontractors

Key subcontractors are subcontractors or vendors to the Recipient who are critical to the outcome of the project. As with key personnel, key subcontractors may have expertise in the particular field or have experience that is not available from another source. Replacing these subcontractors may affect the outcome of the project. An employee of the Recipient's subcontractor or vendor may also qualify as "key." Key subcontractors, listed in the Budget exhibit, may not be substituted without the Commission Project Manager's approval. Such approval shall not be unreasonably withheld. Recipient may substitute all other subcontractors, with reasonable advance notification made to the Commission Project Manager. Replacement of key subcontractors is subject to the "Contracting and Procurement Procedures" section contained within these terms and conditions.

11. *Bonding and Insurance*

The Recipient will comply with all bonding and insurance requirements relating to bid guarantees, performance bonds, and payment bonds without regard to the dollar value of the subcontract(s) in accordance with applicable federal and state laws and regulations.

12. *Permits and Clearances*

The Recipient is responsible for ensuring all necessary permits and environmental documents are prepared and clearances are obtained from the appropriate agencies.

13. *Equipment*

Title to equipment acquired by the Recipient with grant funds shall vest in the Recipient. The Recipient shall use the equipment in the project or program for which it was acquired as long as needed, whether or not the project or program continues to be supported by grant funds and shall not encumber the property without Commission Project Manager approval. When no longer needed for the original project or program, the Recipient shall contact the Commission Project Manager for disposition instructions.

Recipient should refer to the applicable OMB Circulars and/or federal regulations incorporated by reference in this Agreement for additional equipment requirements.

14. Termination

a. Purpose

The parties agree that because the Commission is a state entity and provides funding on behalf of all Californian ratepayers, it is necessary for the Commission to be able to terminate, at once, upon the default of Recipient and to proceed with the work required under the Agreement in any manner the Commission deems proper. Recipient specifically acknowledges that the termination of the Agreement by the Commission under the terms set forth below is an essential term of the Agreement, without which the Commission would not enter into the Agreement. Recipient further agrees that upon any of the events triggering the termination of the Agreement by the Commission, the Commission has the right to terminate the Agreement, and it would constitute bad faith of the Recipient to interfere with the immediate termination of the Agreement by the Commission.

b. Breach

The Commission shall provide Recipient written notice of intent to terminate due to Recipient's breach. Recipient will have fifteen (15) calendar days to fully perform or cure the breach. In the event Recipient does not cure the breach within fifteen (15) days, the Commission may, without prejudice to any of its other remedies, terminate this Agreement upon five (5) calendar days written notice to Recipient. In such event, Commission shall pay Recipient only the reasonable value of the satisfactorily performed services rendered by Recipient before the notice of termination, as may be agreed upon by the parties or determined by a court of law, but not in excess of the Agreement maximum payable.

c. For Cause

The Commission may, for cause, and at its option, terminate this Agreement upon giving thirty (30) calendar days advance written notice to Recipient. In such event, Recipient agrees to use all reasonable efforts to mitigate its expenses and obligations. The Commission will pay Recipient for services rendered and expenses incurred within thirty (30) days after notice of termination which could not by reasonable efforts of Recipient have been avoided, but not in excess of Agreement maximum payable. Recipient agrees to relinquish possession of equipment purchased for this Agreement with Commission funds to the Commission, or Recipient may, with approval of the Commission, purchase the equipment as provided by the terms of this Agreement.

The term "for cause" includes, but is not limited to, the following reasons:

- Partial or complete loss of Match Funds;
- Reorganization to a business entity unsatisfactory to the Commission;

- Retention or hiring of subcontractors, or replacement or addition of Key Personnel that fail to perform to the standards and requirements of this Agreement;
- Recipient is not able to pay its debts as they become due and/or Recipient is in default of an obligation that impacts its ability to perform under this Agreement; or
- Significant change in State or Commission policy such that the work or product being funded would not be supported by the Commission.

15. *Travel and Per Diem*

For purposes of payment, Recipient's headquarters shall be considered the location of the Recipient's office where the employees assigned responsibilities for this award are permanently assigned. Travel expenditures not listed in this section cannot be reimbursed.

Travel not listed in the Budget section of this Agreement shall require prior written authorization from the Commission Project Manager. Recipient shall be reimbursed for authorized travel and per diem up to, but not to exceed, the rates allowed nonrepresented state employees. A copy of the current allowable travel reimbursement rates can be obtained from the Commission's web site at www.energy.ca.gov/contracts/html or by contacting the Commission's Grants and Loans Office at (916) 654-4381.

Travel expense claims must detail expenses using the allowable rates, and Recipient must sign and date travel expense claim before submitting the travel expense claim to the Commission for payment. Expenses must be listed by trip including dates and times of departure and return. Travel expense claims supporting receipts and expense documentation shall be attached to the Recipient's Payment Request. A vehicle license number is required when claiming mileage, parking, or toll charges. Questions regarding allowable travel expenses or per diem should be addressed to the Commission Project Manager.

16. *Standard of Performance*

- a. Recipient, its subcontractors and their employees in the performance of Recipient's work under this Agreement shall be responsible for exercising the degree of skill and care required by customarily accepted good professional practices and procedures used in scientific and engineering research fields.
- b. The failure of a project to achieve the technical or economic goals stated in the Work Statement is not a basis for the Commission to determine that the work is unacceptable, unless the work conducted by the Recipient or its subcontractors is deemed by the Commission to have failed the foregoing standard of performance.
- c. In the event that Recipient or its subcontractor fails to perform in accordance with the foregoing standard of performance, the Commission Project Manager and the Recipient Project Manager shall seek to negotiate in good faith an equitable resolution satisfactory to both parties. If such a resolution cannot be reached, the

parties shall work through the Commission's dispute resolution process described in the Disputes Section herein.

- d. Nothing contained in this section is intended to limit any of the rights or remedies which the Commission may have under law.

17. Payment of Funds

a. Payment Requests

Unless indicated otherwise in Special Conditions, the Recipient may request payment from the Commission at any time during the term of this Agreement, but no more frequently than monthly, although it is preferred that payment requests be submitted with the progress reports.

Payments will generally be made on a reimbursement basis for Recipient's expenditures, i.e., after the Recipient has paid for a service, product, supplies, or other approved budget item. No reimbursement for food or beverages shall be made other than allowable per diem charges.

The Commission, at its sole discretion, may honor advance payment requests subject to special conditions specified by the Commission's Grants and Loans Office.

Funds in this award have a limited period in which they must be expended. All Recipient expenditures must occur prior to the end of the term of this Agreement.

b. Payment Request Format

A request for payment shall consist of, but is not limited to:

- 1) An invoice that is a **list** of actual expenses incurred during the billing period. Backup information is not required at the time of invoice submittal, but will be required at time of audit (see Audit Section). Unless specified otherwise in Special Conditions, the invoice list must include documentation of expenditures consistent with the grant Budget, as follows:
 - a) Date prepared, grant number, Recipient's Federal ID number, and billing period;
 - b) Recipient's actual labor expenditures, including hourly labor rates by individual, hours worked, and benefits (fully loaded rates may only be used if fully loaded rates are included in the grant Budget);
 - c) Operating expenses, including travel, equipment, supplies, and other;
 - d) Subcontractor invoices;
 - e) Overhead/indirect;
 - f) Match fund expenditures, and

- g) By Budget line item (cost component) category, list budgeted amount, billed to date, current billing, and balance of funds.
- 2) A progress report that documents evidence of progress, which includes written progress reports and products prepared by the Recipient as detailed in the Work Statement.

The Commission will accept computer-generated or electronically transmitted invoices without backup documentation provided that the Recipient sends a hardcopy the same day.

Recipient shall submit all invoices to the following address:

California Energy Commission
Accounting Office
PIER Grant Program
1516 Ninth Street, MS-2
Sacramento, CA 95814

c. Release of Funds

Each invoice is subject to Commission Project Manager approval. The Commission Project Manager will not process any payment request during the Agreement term if the following conditions have not been met:

- All required reports have been submitted and are satisfactory to the Commission Project Manager.
- All applicable special conditions have been met.
- All appropriate permits or permit waivers from governmental agencies have been issued to the Recipient and copies have been received by the Commission Project Manager.
- All products due have been submitted and are satisfactory to the Commission Project Manager.
- Other prepayment conditions as may be required by the Commission Project Manager have been met. Such conditions will be specified in writing ahead of time, if possible.

Payments shall be made to the Recipient only for undisputed invoices. An undisputed invoice is an invoice executed by the Recipient for project expenditures, that meets all payment conditions of the Agreement, and for which additional evidence is not required to make payment. The Commission shall give written notice to Recipient within 15 working days of receipt of a disputed invoice by using State of

California Form 209. If the invoice is not disputed within 15 working days, the invoice is presumed to be valid, but is subject to audit and verification.

d. Indirect Costs/Overhead/Facilities and Administration Costs (F&A)

If the Recipient has an approved indirect cost/overhead/F&A rate by their cognizant Federal Audit Agency, Recipient's indirect costs will be reimbursed in accordance with those rates.

e. Retention

It is the Commission's policy to retain 10 percent of any payment request or 10 percent of the total Commission award at the end of the project. After the project is complete the Recipient must submit a completed payment request form requesting release of the retention. The Commission Project Manager will review the project file and, when satisfied that the terms of the funding Agreement have been fulfilled, will authorize release of the retention.

f. State Controller's Office

Payments are made by the State Controller's Office.

18. *Recordkeeping, Cost Accounting, and Auditing*

a. Cost Accounting

Recipient agrees to keep separate, complete, and correct accounting of the costs involved in completing the grant and match funded (if any) portion of this project. The Commission or its agent shall have the right to examine Recipient's books of accounts at all reasonable times to the extent and as is necessary to verify the accuracy of Recipient's reports.

b. Accounting Procedures

The Recipient's costs shall be determined on the basis of the Recipient's accounting system procedures and practices employed as of the effective date of this Agreement, provided that the Recipient shall use generally accepted accounting principles and cost reimbursement practices. The Recipient's cost accounting practices used in accumulating and reporting costs during the performance of this Agreement shall be consistent with the practices used in estimating costs for any proposal to which this Agreement relates; provided that such practices are consistent with the other terms of this Agreement and provided, further, that such costs may be accumulated and reported in greater detail during performance of this Agreement. The Recipient's accounting system shall distinguish between direct costs and indirect costs. All costs incurred for the same purpose, in like circumstances, are either direct costs only or indirect costs only with respect to costs incurred under this Agreement.

c. Allowability of Costs

1) Allowable Costs

The costs for which the Recipient shall be reimbursed under this Agreement include all costs, direct and indirect, incurred in the performance of work that are identified in the grant Budget. Costs must be incurred within the term of the Agreement. Factors to be considered in determining whether an individual item of cost is allowable include (i) reasonableness of the item, (ii) appropriate use of the allocability of the item to the work, (iii) applicable federal OMB circulars and/or federal regulations incorporated by reference in this Agreement, and (iv) the terms and conditions of this Agreement.

2) Unallowable Costs

The following is a description of some specific items of cost that are unallowable; provided, however, that the fact that a particular item of cost is not included shall not mean that it is allowable. Details concerning the allowability of costs are available from the Commission's Accounting Office.

a) Profit or Fees, Contingency Costs, Imputed Costs, Fines and Penalties, Losses, Excess Profit Taxes and increased rates and fees for this Agreement.

b) The Commission will pay for state or local sales or use taxes on expenditures. The State of California is exempt from Federal excise taxes.

3) Except as provided for in this Agreement, Recipient shall use the federal OMB circulars and/or federal regulations incorporated by reference in this

Agreement when determining allowable and unallowable costs. In the event of a conflict, this Agreement takes precedence over the OMB Circulars and/or federal regulations.

d. Audit Rights

Recipient shall maintain books, records, documents, and other evidence, based on the procedures set forth above, sufficient to reflect properly all costs claimed to have been incurred in performing this Agreement. The Commission, an agency of the state or, at the Commission's option, a public accounting firm designated by Commission, may audit such accounting records at all reasonable times with prior notice by Commission. Commission shall bear the expense of such audits. It is the intent of the parties that such audits shall ordinarily be performed not more frequently than once every twelve (12) months during the performance of the work and once at any time within three (3) years following payment by Commission of the Recipient's final invoice. However, performance of any such interim audits by the Commission does not preclude further audit.

Recipient agrees that the Commission, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. Recipient agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of record retention is stipulated. Recipient agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Recipient agrees to include a similar right of the state to audit records and interview staff in any subcontract related to performance of this Agreement.

e. Refund to Commission

If Commission determines, that any invoiced and paid amounts exceed the actual allowable incurred costs, Recipient shall repay such amounts to Commission within thirty (30) days of request or as otherwise agreed by the Commission and Recipient. If Commission does not receive such repayments, the Commission shall be entitled to withhold further payments to the Recipient or seek repayment from the Recipient.

f. Audit Cost

The cost of the audit shall be borne by the Commission except when the results of the audit reveal an error detrimental to the Commission exceeding more than ten percent (10%) or \$5,000 (whichever is greater) of 1) the amount audited, or 2) if a royalty audit, the total royalties due in the period audited. Recipient shall pay the refund as specified in "e. Refund to Commission," and Recipient agrees to

reimburse Commission for reasonable costs and expenses incurred by the Commission in conducting such audit.

g. Match or Cost Share (match)

If the Budget includes a match share requirement, the Recipient's commitment of resources, as described in this Agreement, is a required expenditure for receipt of Commission funds. Grant funds will be released only if the required match percentages are expended. The Recipient must maintain accounting records detailing the expenditure of the match (actual cash and in-kind services) and report on match share expenditures on the Recipient's request for payment.

19. Indemnification

The Recipient agrees to indemnify, defend, and save harmless the state, its officers, agents, and employees from any and all claims and losses accruing or resulting to Recipient and to any and all contractors, subcontractors, materialmen, laborers, and any other person, firm, or corporation furnishing or supplying work, services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm, or corporation who may be injured or damaged by the Recipient in the performance of this Agreement.

20. Disputes

In the event of a dispute or grievance between Recipient and the Commission, both parties shall follow the procedure below. Recipient shall continue with the responsibilities under this Agreement during any dispute.

A. Commission Dispute Resolution

The Recipient shall first discuss the problem informally with the Commission Project Manager. If the problem cannot be resolved at this stage, the Recipient must direct the grievance together with any evidence, in writing, to the Grants and Loans Office. The grievance must state the issues in the dispute, the legal authority or other basis for the Recipient's position and the remedy sought. The Grants and Loans Office and the Program Office Manager must make a determination on the problem within ten (10) working days after receipt of the written communication from the Recipient. The Grants and Loans Office shall respond in writing to the Recipient, indicating a decision and explanation for the decision. Should the Recipient disagree with the Grants and Loans Office's decision, the Recipient may appeal to the second level.

The Recipient must prepare a letter indicating why the Grants and Loans Office's decision is unacceptable, attaching to it the Recipient's original statement of the dispute with supporting documents, along with a copy of the Grants and Loans Office's response. This letter shall be sent to the Energy Commission's Executive

Director within ten (10) working days from receipt of the Grants and Loans Office's decision. The Executive Director or designee shall meet with the Recipient to review the issues raised. A written decision signed by the Executive Director or designee shall be returned to the Recipient within twenty (20) working days of receipt of the Recipient's letter. The Executive Director may inform the Commission of the decision at a Commission business meeting. Should the Recipient disagree with the Executive Director's decision, the Recipient may appeal to the Commission at a regularly scheduled business meeting. Recipient will be provided with the current procedures for placing the appeal on a Commission business meeting agenda.

B. Binding Arbitration

Should the Commission's Dispute Resolution procedure above fail to resolve an Agreement dispute or grievance to the satisfaction of either party, the Recipient and Commission mutually may elect to have the dispute or grievance resolved through binding arbitration. If one party does not agree, the matter shall not be submitted to arbitration. The arbitration proceeding shall take place in Sacramento County, California, and shall be governed by the commercial arbitration rules of the American Arbitration Association (AAA) in effect on the date the arbitration is initiated. The dispute or grievance shall be resolved by one (1) arbitrator who is an expert in the particular field of the dispute or grievance. The arbitrator shall be selected in accordance with the AAA commercial arbitration rules. If arbitration is mutually decided by the parties, arbitration is in lieu of any court action and the decision rendered by the arbitrator shall be final and may not be appealed to a court through the civil process). However, judgment may be entered upon the arbitrator's decision and is enforceable in accordance with the applicable law in any court having jurisdiction over this Agreement. The demand for arbitration shall be made no later six (6) months after the date of the Agreement's termination, despite when the dispute or grievance arose, and despite the applicable statute of limitations for a suit based on the dispute or grievance. If the parties do not mutually agree to arbitration, the parties agree that the sole forum to resolve a dispute is California state court.

The cost of arbitration shall be borne by the parties as follows:

- 1) The AAA's administrative fees shall be borne equally by the parties;
- 2) The expense of a stenographer shall be born by the party requesting a stenographic record;
- 3) Witness expenses for either side shall be paid by the party producing the witness;
- 4) Each party shall bear the cost of its own travel expenses;
- 5) All other expenses shall be borne equally by the parties, unless the arbitrator apportions or assesses the expenses otherwise as part of the award.

At the option of the parties, any or all of these arbitration costs may be deducted from any balance of Agreement funds. Both parties must agree, in writing, to utilize Agreement funds to pay for arbitration costs.

21. *Workers' Compensation Insurance*

- a. Recipient hereby warrants that it carries Worker's Compensation Insurance for all of its employees who will be engaged in the performance of this Agreement, and agrees to furnish to the Commission Project Manager satisfactory evidence of this insurance at any time the Commission Project Manager may request.
- b. If Recipient is self-insured for worker's compensation, it hereby warrants such self-insurance is permissible under the laws of the State of California and agrees to furnish to the Commission Project Manager satisfactory evidence of this insurance at any time the Commission Project Manager may request.

22. *Confidentiality*

- a. Information Considered Confidential

All Recipient information considered confidential at the commencement of this Agreement is designated an Attachment to this Agreement.

- b. Confidential Products: Labeling and Submitting Confidential Information

Prior to the commencement of this Agreement, the parties have identified in an Attachment to this Agreement, specific Confidential Information to be provided as a product. All such confidential products shall be marked, by the Recipient, as "Confidential" on each page of the document containing the Confidential Information and presented in a sealed package to the Grants and Loans Office. (Non-confidential products are submitted to the Commission Project Manager.) All Confidential Information will be contained in the "confidential" volume: no Confidential Information will be in the "public" volume.

- c. Submittal of Unanticipated Confidential Information as a Product

The Recipient and the Commission agree that during this Agreement, it is possible that the Recipient may develop additional data or information not originally anticipated as a confidential product. In this case, Recipient shall follow the procedures for a request for designation of Confidential Information specified in title 20 CCR 2505. The Commission's Executive Director makes the determination of confidentiality. Such subsequent determinations may be added to the list of confidential products in an Attachment to this Agreement.

- d. Disclosure of Confidential Information

Disclosure of Confidential Information by the Commission may only be made pursuant to 20 CCR 2506 and 2507. All confidential data, records or products that are legally disclosed by the Recipient or any other entity become public records and are no longer subject to the above confidentiality designation.

23. **Definitions**

- a. **Copyrightable Work** means any copyrighted work as defined under U.S. copyright law to which the Performing Institution has acquired title, that is first created by Recipient or by a Performing Institution in the performance of this Agreement and is not a scholarly work.
- b. **Licensed Product** means any product commercialized by a Licensee that embodies or utilizes a Subject Invention, Copyrightable Work or Project Related Products.
- c. **Licensee** means the organization (or its affiliates, joint venture or sublicensee) that develops any Subject Invention, Copyrightable Work or Project Related Products into a commercial product that is made available to the public in the marketplace. Licensee may be the Recipient, a Performing Institution or a company to whom the Recipient or the Performing Institution licenses commercial rights.
- d. **Performing Institution** means (i) any non-UC not-for-profit organization, for-profit organization, or Federal laboratory, or (ii) any part of University of California, such as a campus or UC-managed Department of Energy Laboratory performing research under this Agreement.
- e. **Project** refers to the entire effort undertaken and planned by the Recipient and consisting of the work co-funded by the Commission. The project may coincide with or extend beyond the Agreement Term.
- f. **Project-Related Products ("PRP")** means all tangible research products first made by Recipient or a Performing Institution in the performance of this Agreement, but not a Subject Invention nor a Copyrightable Work.
- g. **Subject Invention** means any patentable invention or discovery that is either:
 - 1) Conceived and first actually reduced to practice in the performance of this Agreement;
 - 2) Conceived in the performance of this Agreement elected by the Commission pursuant and reduced to practice within 42 months following the termination or expiration of this Agreement; or

- 3) Conceived prior to and reduced to practice in the performance of this Agreement, provided that such conception was incorporated into the Project and the parties mutually agree in writing to include such conception.

24. *Intellectual Property Items Developed Prior to This Agreement*

- a. Intellectual property information is designated in an Attachment to this Agreement.
- b. The Commission makes no claim to intellectual property that existed prior to this Agreement and was developed without Commission funding.
- c. The Recipient gives notice that the items listed in an Attachment to this Agreement have been developed without Commission funding and prior to the start of this Agreement. This list represents a brief description of the prior developed intellectual property. A detailed description of the intellectual property, as it exists on the effective date of this Agreement, may be necessary if Commission funds are used to further develop the listed intellectual property. This information will assist the parties to make an informed decision regarding intellectual property rights and possible repayment obligations.

25. *Rights of Parties Regarding Intellectual Property*

- a. Commission's Rights in Products

Products and reports specified for delivery to the Commission under this Agreement shall become the property of the Commission. The Commission may use, publish, and reproduce the products and reports subject to the provisions of subsection c.

- b. Rights in Technical, Generated, and Product Data

- 1) Recipient's Rights

All data (i.e., technical, generated and product data) produced under this Agreement shall be the property of the Recipient, limited by the license retained by the Commission in 2) below, and the rights the Commission has in products specified above in a).

- 2) Commission's Rights

Recipient shall provide the Commission Project Manager and any designated reviewer(s) with a copy of all technical, generated and product data produced under the Agreement, when requested. Recipient is not required to copy and submit data the Commission Project Manager has identified as being unusable to the Commission and the PIER program such as raw data that is too disaggregated or voluminous for practical application.

Such data shall be retained at the Recipient's facility for inspection, review and possible copying by the Commission Project Manager for a minimum of three (3) years after final payment unless a longer period of records retention is stipulated.

Upon request by Commission Project Manager, Recipient shall provide the Commission Project Manager and any designated reviewer(s) access to review technical and generated data produced in the course of this Agreement that is not requested to be delivered to the Commission.

For all data (technical, generated and product data) produced under this Agreement, the Commission retains a no-cost, non-exclusive, non-transferable, irrevocable, royalty-free, worldwide, perpetual license to use, publish, translate, produce and to authorize others to produce, translate, publish and use the data, subject to the provisions of subsection c.

c. Limitations on Commission Disclosure of Recipient's Confidential Records

- 1) Data provided to the Commission by Recipient, which data the Commission has not already agreed to keep confidential and which Recipient seeks to have designated as confidential, or is the subject of a pending application for confidential designation, shall not be disclosed by the Commission except as provided in Title 20 CCR Sections 2506 and 2507 (or as they may be amended), unless disclosure is ordered by a court of competent jurisdiction.
- 2) It is the Commission's intent to use and release project results such as products and data in a manner calculated to further PIER while protecting proprietary or patentable interests of the parties. Therefore, the Commission agrees not to disclose confidential data or the contents of reports containing data considered by Recipient as confidential, without first providing a copy of the disclosure document for review and comment by Recipient. Recipient shall have no less than 10 working days for review and comment and, if appropriate, to make an application for confidential designation on some or all of the data. The Commission shall consider the comments of the Recipient and use professional judgment in revising the report, information or data accordingly.

d. Exclusive Remedy

In the event the Commission intends to publish or has disclosed data the Recipient considers confidential, the Recipient's exclusive remedy is a civil court action for injunctive relief. Such court action shall be filed in Sacramento County, Sacramento, California.

e. Waiver of Consequential Damages

IN NO EVENT WILL THE ENERGY COMMISSION BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL THEORY FOR THE DISCLOSURE OF RECIPIENT'S CONFIDENTIAL RECORDS, EVEN IF THE ENERGY COMMISSION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. DAMAGES THAT THE ENERGY COMMISSION WILL NOT BE RESPONSIBLE FOR INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFIT; LOSS OF SAVINGS OR REVENUE; LOSS OF GOODWILL; LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT; COST OF CAPITAL; COST OF ANY SUBSTITUTE EQUIPMENT, FACILITIES, OR SERVICES; DOWNTIME; THE CLAIMS OF THIRD PARTIES INCLUDING CUSTOMERS; AND INJURY TO PROPERTY.

f. Limitations on Recipient Disclosure of Grant Data, Information, Reports and Records

- 1) Recipient must receive approval from the Commission Project Manager before disclosing to any third party the contents of any draft product or report.
- 2) After any document submitted has become a part of the public records of the state, Recipient may, if it wishes to do so at its own expense, publish or utilize the same, but shall include the legal notice stated above.
- 3) Notwithstanding the foregoing, in the event any public statement is made by the Commission as to the role of Recipient or the content of any preliminary or Final Report of Recipient hereunder, Recipient may, if it believes such statement to be incorrect, state publicly what it believes is correct.
- 4) No record that is provided by the Commission to Recipient for Recipient's use in executing this Agreement and which has been designated as confidential, or is the subject of a pending Application for Confidential Designation, except as provided in Title 20, CCR Sections 2506 and 2507, shall be disclosed, unless disclosure is ordered by a court of competent jurisdiction (Title 20 CCR Section 2501, et seq.). At the election of the Commission Project Manager, the Recipient, its employees and any subcontractors shall execute a "Confidentiality Agreement," supplied by the Commission Project Manager.
- 5) Recipient acknowledges that each of its officers, employees, and subcontractors who are involved in the performance of this Agreement will be informed about the restrictions contained herein and to abide by the above terms.

g. Proprietary Data

Proprietary data owned by the Recipient shall remain with the Recipient throughout the term of this Agreement and thereafter. The extent of Commission access to the same and the testimony available regarding the same shall be limited to that reasonably necessary to demonstrate, in a scientific manner to the satisfaction of scientific persons, the validity of any premise, postulate or conclusion referred to or expressed in any product hereunder.

h. Preservation of Data

Any data which is reserved to the Recipient by the express terms hereof, and pre-existing proprietary or confidential data which has been utilized to support any premise, postulate or conclusion referred to or expressed in any product hereunder, shall be preserved by the Recipient at the Recipient's own expense for a period of not less than three years after receipt and approval by the Commission of the Final Report herein.

i. Destruction of Data

Before the expiration of three years and before changing the form of or destroying any such data, the Recipient shall notify Commission of any such contemplated action and Commission may, within thirty (30) days after said notification, determine whether it desires said data to be further preserved. If Commission so elects, the expense of further preserving said data shall be paid for by the Commission. Recipient agrees that Commission may, at its own expense, have reasonable access to said data throughout the time during which said data is preserved. Recipient agrees to use its best efforts to identify competent witnesses to testify in any court of law regarding said data or, at Commission's expense, to furnish such competent witnesses.

j. Patent Rights

1) Patent rights for any Subject Invention, whether actually patented or unpatented, will be the property of the Recipient whose employees or researchers are inventors of such invention pursuant to U.S. patent law, subject to the Commission obtaining a no-cost, nonexclusive, nontransferable, irrevocable, perpetual, royalty-free, worldwide license to use or have practiced such rights for or on behalf of the State of California for governmental purposes. Commission shall not purposefully enter into competition with a Licensee or take affirmative actions intended to effectively destroy the commercial market where a Licensee has introduced a Licensed Product. Recipient must obtain Agreements to effectuate this Section with all persons or entities, except for the U.S. Department of Energy (DOE), obtaining ownership interest in such patent rights. Previously documented (whether patented or unpatented under the

patent laws of the United States of America or any foreign country) inventions are exempt from this provision.

- 2) The Recipient will disclose to Commission on a confidential basis all Subject Inventions. The Commission may provide any suggestions to the Recipient concerning commercialization strategies and/or potential licensees for such invention within sixty (60) days of receiving the disclosure from the Recipient. Recipient shall send, by March 1 of each year, a report to the Commission that provides non-proprietary information on the status of any patents and/or licensing Agreements executed or under negotiation for Subject Inventions and/or activities by Licensee related to the development and testing of Licensed Product.
- 3) March-in Rights. With respect to any Subject Invention in which the Recipient has acquired title, to the extent permissible under Federal laws and regulations, the Commission shall have the right to require the Recipient, an assignee or Licensee of such patent rights to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant, upon terms that are reasonable under the circumstances, and if the Recipient, assignee, or Licensee refuses such request, to grant such a license itself, if the Commission determines that such:
 - a) Action is necessary because the Recipient, Licensee, or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the patent rights in such field of use; or
 - b) Action is necessary to alleviate health or safety needs that are not reasonably satisfied by the Recipient, assignees, or their Licensees.

Final resolution, if not resolved under the “Disputes” section , will be settled in the courts of the State of California. The parties may refer to the Federal Government’s procedures for handling march-in rights.

Future Reductions. The Recipient will submit in confidence within ninety (90) days after termination or expiration of the grant award, a report listing inventions that are conceived, but not actually reduced to practice, in the performance of this grant award. The Commission will identify in writing within sixty (60) days to the Recipient those conceptions that it desires to reserve rights to should Recipient desire to actually reduce to practice those identified conceptions within forty-two (42) months after the termination or expiration of the grant award. Recipient has an affirmative duty to report to the Commission those conceptions reduced to practice within the forty-two (42) months period.

k. Commission's Rights to Invention.

Recipient and all persons and/or entities obtaining an ownership interest in subject invention(s) shall include within the specification of any United States patent application, and any patent issuing thereon covering a subject invention, the following statement:

"THIS INVENTION WAS MADE WITH STATE OF CALIFORNIA SUPPORT
UNDER CALIFORNIA ENERGY COMMISSION GRANT NUMBER
_____. THE ENERGY COMMISSION HAS CERTAIN RIGHTS TO
THIS INVENTION."

l. Copyrights

- 1) Copyrightable material first produced under this Agreement shall be owned by the Recipient, limited by the license granted to the Commission in 2) below.
- 2) Recipient agrees to grant the Commission a royalty-free, no-cost nonexclusive, irrevocable, nontransferable worldwide, perpetual license to produce, translate, publish, use and dispose of, and to authorize others to produce, translate, publish, use and dispose of all copyrightable material first produced or composed in the performance of this Agreement.
- 3) Recipient will apply copyright notices to all products using the following form or such other form as may be reasonably specified by Commission.

“©[YEAR OF FIRST PUBLICATION OF PRODUCT],
[THE COPYRIGHT HOLDER’S NAME].
ALL RIGHTS RESERVED.”

4) Software

In the event software that is not a product is developed under the Agreement, Recipient shall have the right to copyright and/or patent such software and grants the Commission a royalty-free, no-cost, non-exclusive, irrevocable, non-transferable, world-wide, perpetual license to produce and use for governmental purposes the software, and its derivatives and upgrades that may be developed by the authors within 42 months following the termination or expiration of this Agreement. The Commission shall not purposefully enter into competition with a Licensee or take affirmative actions intended to effectively destroy the commercial market where a Licensee has introduced a licensed product.

m. Intellectual Property Indemnity

Recipient will defend and indemnify Commission from and against any claim, lawsuit or other proceeding, loss, cost, liability or expense (including court costs and reasonable fees of attorneys and other professionals) to the extent arising out of any third party claim solely arising out of the negligent or other tortious act(s) or omission(s) by the Recipient, its employees, or agents, in connection with intellectual property claims against either products or the Recipient's performance thereof under this Agreement.

26. *Royalty Payments to Commission*

- a. In consideration of the Commission providing funding to Recipient, Recipient agrees to pay the Commission a portion of either Net Revenues or Net Royalties under the terms and conditions hereinafter set forth.
- b. Net Royalties. If the Performing Institution licenses to a Licensee, Recipient's obligation to make payments to the Commission shall commence from the date that the Net Royalties calculation is positive. Payments are payable in annual installments and are due the first day of March for Net Royalties calculation made for Recipient's prior fiscal year. Recipient agrees to pay to Commission an amount equivalent to 10% of the total cumulative Net Royalties for each and all Performing Institutions, less payments made by Recipient to the Commission in previous years when Net Royalties per Performing Institution were positive. Payments shall be made by check, made payable to the California Energy Commission, PIER Fund.
- c. Net Revenues. If the Performing Institution is the Licensee, Recipient's obligation to make payments to the Commission shall commence upon the first sale of the Licensed Product. Payments are payable in annual installments and are due the first day of March for the prior fiscal year of Recipient. Recipient agrees to pay an amount equivalent to 1.5% of the Net Revenues by check made payable to the California Energy Commission, PIER Fund.
- d. Recipient agrees to and shall require each Performing Institution to agree not to make any sale, license, lease, gift or other transfer of any Subject Invention, Copyrightable Work or Project-Related Products (PRP) with the intent of, or for the purpose of, depriving Commission of Net Royalties or Net Revenues hereunder. Generally, this means that the Performing Institution will not make any sale, license, lease or other transfer of PRP for consideration other than fair market value except for research, educational, or other mutually agreed to purposes intended to serve the public benefit.
- e. Recipient and Performing Institutions shall maintain separate accounts within their financial and other records for purposes of tracking royalties and revenues due to the Commission under this Agreement.

- f. Audits on Payments to Commission. Payments to the Commission are subject to audit as provided for under the “Recordkeeping, Cost Accounting and Auditing” Section.
- g. Defaults. In the event of default hereunder, the Commission shall be free to exercise all rights and remedies available to it herein, and under law and at equity. The occurrence of the following event shall constitute a default under this Agreement:
 - 1) Recipient’s or Performing Institution’s failure to pay when due, any amount due and payable under the terms of this Agreement.
 - 2) Recipient acknowledges that a late payment of royalties/revenues owed to the Commission will cause the Commission to incur costs not contemplated by the parties. If a royalty/revenue payment is not paid when due, Recipient agrees to pay the Commission a late fee equal to two percent (2%) of the payment due. Additionally, Recipient agrees that royalty/revenue payments not paid within fifteen (15) days of the due date shall thereupon become debt obligations of Recipient to the Commission, due upon demand and bearing interest at the maximum interest rate allowed by law.
 - 3) The parties agree that Recipient does not guarantee compliance with payments under this section in the event of default by a Performing Institution. Amounts in default and not paid by Performing Institution will not be paid by Recipient under 25.B and C. and the fees and obligations of 25.H. pursuant to such default and non-payment shall not be a responsibility of Recipient. However, Recipient has an affirmative duty to monitor Performing Institutions’ compliance and take reasonable enforcement measures calculated to obtain Performing Institutions’ performance of the payment obligations of this section .

27. General Provisions

a. Governing Law

It is hereby understood and agreed that this Agreement shall be governed by the laws of the State of California as to interpretation and performance.

b. Independent Capacity

The Recipient, and the agents and employees of the Recipient, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of the State of California.

c. Assignment

Without the written consent of the Commission in the form of a formal written amendment, this Agreement is not assignable or transferable by Recipient either in whole or in part.

d. Timeliness

Time is of the essence in this Agreement.

e. Unenforceable Provision

In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

f. Waiver

No waiver of any breach of this Agreement shall be held to be a waiver of any other or subsequent breach. All remedies afforded in this Agreement shall be taken and construed as cumulative, that is, in addition to every other remedy provided therein or by law.

g. Assurances

The Commission reserves the right to seek further written assurances from the Recipient and its team that the work of the project under this Agreement will be performed consistent with the terms of the Agreement.

h. Change in Business

(1) Recipient shall promptly notify the Commission of the occurrence of any of the following:

- (a) A change of address.
- (b) A change in the business name or ownership.
- (c) The existence of any litigation or other legal proceeding affecting the project.
- (d) The occurrence of any casualty or other loss to project personnel, equipment or third parties.
- (e) Receipt of notice of any claim or potential claim against Recipient for patent, copyright, trademark, service mark and/or trade secret infringement that could affect the Commission's rights.

(2) Recipient shall not change or reorganize the type of business entity under which it does business except upon prior written notification to the

Commission. A change of business entity or name change requires an amendment assigning or novating the Agreement to the changed entity. In the event the Commission is not satisfied that the new entity can perform as the original Recipient, the Commission may terminate this Agreement as provided in the termination section .

i. Access to Sites and Records

The Commission staff or its representatives shall have reasonable access to all project sites and to all records related to this Agreement.

j. Survival of Terms

It is understood and agreed that certain provisions shall survive the completion or termination date of this Agreement for any reason. The provisions include, but are not limited to:

- “Payments of Funds”
- “Equipment”
- “Change in Business”
- “Disputes”
- “Termination”
- “Recordkeeping, Cost Accounting, and Auditing”
- “Indemnification”
- “Right of Parties Regarding Intellectual Property”
- “Royalty Payments to Commission”
- Access to Sites and Records

28. *Certifications and Compliance*

a. Federal, State & Local Laws

Recipient shall comply with all applicable federal, state and local laws, rules and regulations.

b. Nondiscrimination Statement of Compliance

During the performance of this Agreement, Recipient and its subcontractors shall not unlawfully discriminate, harass or allow harassment, against any employee or applicant for employment because of sex, sexual orientation, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (40), marital status, and denial of family care leave. Recipient and its subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Recipient and its subcontractors

shall comply with the provisions of the Fair Employment and Housing Act (Government Code Sections 12990 et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Agreement by reference and made a part of it as if set forth in full. Recipient and its subcontractors shall give written notice of their obligations under this section to labor organizations with which they have a collective bargaining or other Agreement.

The Recipient shall include the nondiscrimination and compliance provisions of this section in all subcontracts to perform work under this Agreement.

c. Drug Free Workplace Certification

By signing this Agreement, the Recipient hereby certifies under penalty of perjury under the laws of the State of California that the Recipient will comply with the requirements of the Drug-Free Workplace Act of 1990 (Government Code Section 8350 et seq.) and will provide a drug-free workplace by taking the following actions:

- i) Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations as required by Government Code Section 8355(a).
- ii) Establish a Drug-Free Awareness Program as required by Government Code Section 8355(b) to inform employees about all of the following:
 - The dangers of drug abuse in the workplace;
 - The person's or organization's policy of maintaining a drug-free workplace;
 - Any available counseling, rehabilitation, and employee assistance programs; and
 - Penalties that may be imposed upon employees for drug abuse violations.
- iii) Provide, as required by Government Code Section 8355(c), that every employee who works on the proposed project:
 - Will receive a copy of the company's drug-free policy statement;
 - Will agree to abide by the terms of the company's statement as a condition of employment on the project.

Failure to comply with these requirements may result in suspension of payments under the Agreement or termination of the Agreement or both, and the Recipient may

be ineligible for any future state awards if the Commission determines that any of the following has occurred: (1) the Recipient has made false certification, or (2) violates the certification by failing to carry out the requirements as noted above.

d. National Labor Relations Board Certification (Not applicable to public entities)

Recipient, by signing this Agreement, does swear under penalty of perjury that no more than one final unappealable finding of contempt of court by a Federal Court has been issued against the Recipient within the immediately preceding two year period because of the Recipient's failure to comply with an order of a Federal Court which orders the Recipient to comply with an order of the National Labor Relations Board.

e. Recycling Certification

The Recipient shall certify in writing under penalty of perjury, the minimum, if not exact, percentage of recycled content, both post consumer waste and secondary waste as defined in the Public Contract Code, Sections 12161 and 12200, in materials, goods, or supplies offered or products used in the performance of this Agreement, regardless of whether the product meets the required recycled product percentage as defined in the Public Contract Code, Sections 12161 and 12200. Recipient may certify that the product contains zero recycled content.

f. Child Support Compliance Act (Applicable to California Employers)

For any agreement in excess of \$100,000, the Recipient acknowledges that:

- i) It recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with section 5200) of Part 5 of Division 9 of the Family Code; and
- ii) To the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

g. Air or Water Pollution Violation

Under the state laws, the Recipient shall not be:

- (1) in violation of any order or resolution not subject to review promulgated by the State Air Resources Board or an air pollution control district;

- (2) subject to cease and desist order not subject to review issued pursuant to Section 13301 of the Water Code for violation of waste discharge requirements or discharge prohibitions; or
- (3) finally determined to be in violation of provisions of federal law relating to air or water pollution.

h. Americans With Disabilities Act

By signing this Agreement, Recipient assures the State that it complies with the Americans with Disabilities Act (ADA) of 1990 (42 U.S.C. 12101, et seq.), which prohibits discrimination on the basis of disability, as well as applicable regulations and guidelines issued pursuant to the ADA.

i. Union Activity

By signing this Agreement, the Recipient hereby certifies that Recipient will not use grant funds for any expenses to assist, promote, or deter union organizing. Any Recipient that makes expenditures to assist, promote, or deter union organizing shall maintain records sufficient to show that state funds have not been used for those expenditures (Government Code Section 16645.2).

PAYMENT REQUEST FORM

Your Company Name or Logo

Invoice

Send to: California Energy Commission
Contracts Payable, MS-2
1516 9th Street, 1st Floor
Sacramento, CA 95814

Please reference the invoice number on your check and
send with a copy of this invoice to:

[Insert Your Company Name]
[Insert Your Address]
[Insert Your City, State and Zip]
[Insert Attention: XXXXXXXX]

Project Name: [Insert Project Name]

This request for payment consists of:

- 1) Invoice (Original and 1 Copy)
- 2) Progress Report(s) for Applicable Period(s) (Original and 1 Copy)
- 3) Deliverable(s) listed by name & task (Original and 1 Copy)
 - a)
 - b)
 - c)

CEC Contract #: [Insert Contract #]
Invoice Number: [Insert Invoice #]

Invoice Date: [Insert Date]
Billing Period: [Insert Billing Period]

Invoice \$ Amount: [Insert Invoice Amount]
Terms: 50 or 60 Days, see cont.
Federal Tax I.D.: [Insert Fed. Tax ID.]

Your Project Manager: [Insert Name]
Telephone No.: [Insert Telephone #]
CEC Project Manager, MS No.: [Insert CEC Project Manager]
Telephone No.: [Insert CEC Telephone #]

The documents included in this request for payment are true
and correct to the best of my knowledge and I, as an agent of
[Company Name] have authority to submit this request.

Signature of Authorized Agent: _____
[Insert Name and Title Here]

Date: _____

Invoice Cover Page

Your Company Name or Logo

BACK-UP LISTS

*CEC Contract #: [Insert Contract #]
Invoice Number: [Insert Invoice #]*

Project Name: [Insert Project Name]

A			
Labor Hours and Hourly Rates (to support Column A, Page 2)			
Employee or Activity	Hours	Hourly Rate	
Total	-	\$	-

B		
Consultant, Materials & Equipment Invoices (Identify DYBE)		
Description Including Invoice No.	\$ Current Amount	\$ Project-to-date
Total	-	-

C		
Travel (to support Column D, Page 2)		
Trip Description (Location, Purpose & Date)	Who	\$ Amount
Total		-

Invoice Backup List

ATTACHMENT 1

CONTENT AND FORMAT OF PROGRESS REPORTS

PROGRESS REPORT for Project Title, Agreement Number Month, Year

Recipient Project Manager:
Commission Project Manager:

What we planned to accomplish this period

[This is taken directly from the section on “What we expect to accomplish during the next period” from the last progress report]

What we actually accomplished this period

[Concise description of major activities and accomplishments.]

How we are doing compared to our plan

[Explain the differences, if any, between the planned and the actual accomplishments. Describe what needs to be done, if anything, to get back on track.]

Significant problems or changes

[Describe any significant technical or fiscal problems. Request approval for significant changes in work scope, revised milestone due dates, changes in key personnel assigned to the project, or reallocation of budget cost categories. If none, include the following statement: “Progress and expenditures will result in project being completed on time and within budget.”]

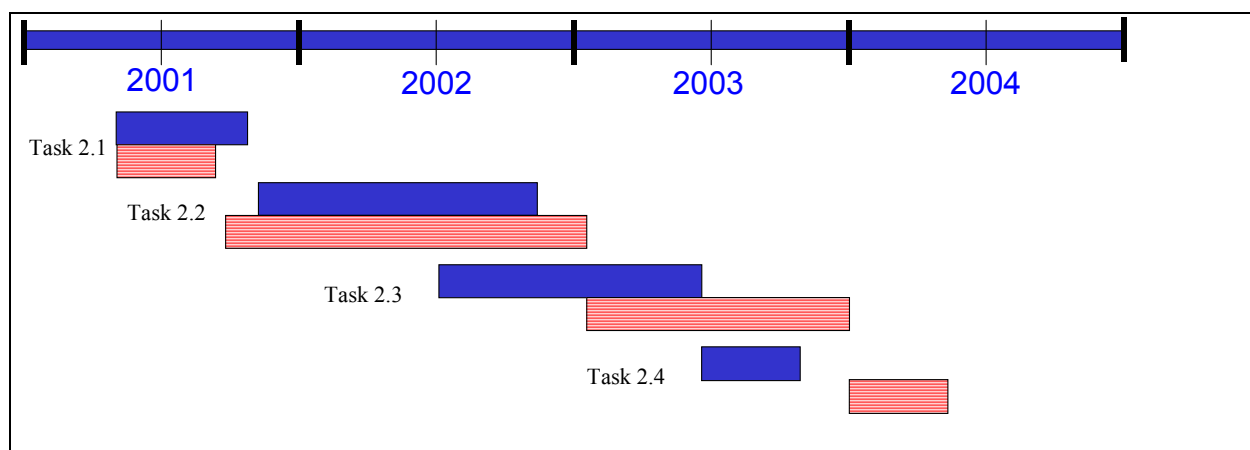
What we expect to accomplish during the next period

[Concise description of major activities and accomplishments expected. This will be transferred to the next progress report]]

Status of Milestones and Products:

[This should be the complete list as contained in the revised scope of work and Exhibit B. Highlight differences between actual and planned.]

Description	Start Date		Due Date		Status (%)
	Planned	Actual	Planned	Actual	
Identify top 3 assessment candidates	4/15/12	4/15/12	5/1/12	5/1/12	Ontime 100%
Develop test plan	4/20/12	4/10/12	7/7/12	6/10/12	Ahead 100%
Analyze experimental data	5/1/12	6/1/12	1/1/13	2/1/13	Delayed 25%



Overall schedule for the _____ project.

[Planned is solid blue, actual is red striped. This work flow diagram needs to correlate with the schedule in Exhibit B. This example has been prepared as a Word Picture, but a comparable Excel diagram or Gantt chart is fine.]

Overview of Fiscal Status: (See invoices for detail.)

[It is useful to track the rate of expenditure of project funds. The most useful way to do this is to compare the actual expenditure rate with the planned expenditure rate. You get the planned rate at the beginning of the project, so it becomes a baseline. If you change course at a critical project review, you should show the original and the modified baseline, and then track against the new one.]

Photographs:

[Include photographs where appropriate to document progress.] The photos shall be shot with color print film or be very high quality digital photos (at least 300 dpi).

Evidence of Progress:

If there is a long time between interim products, then attach evidence of the progress being made (e.g., test data, product mock-ups, field site descriptions, preliminary analyses) to the progress reports to allow the Commission Project Manager to review progress and gauge the quality of research results.

The progress report on each project should be 1-2 pages long (plus photographs) and take about 1 hour to prepare for each reporting period.

Attachment 2

FORMAT FOR FINAL REPORTS

PIER Final Reports contain the following sections:

Cover Page and Title Page
Legal Notice
Acknowledgement Page
Abstract
Preface
Executive Summary
Table of Contents
Introduction
Project Approach
Project Outcomes
Conclusions and Recommendations
Endnotes
References
Glossary
Appendices
Attachments

Cover Page and Title Page

Please create one page with the following information. It will be used to create the cover and title pages.

- Title of the Report
- Name of primary author(s) or principal investigator
- Author's company, organization or affiliation
- Location of author's company, organization or affiliation (City, State)
- Name of Energy Commission Project Manager
- PIER Program Area
- PIER Program Area Lead
- Agreement Number
- Amount of Agreement (Total including amendments.)
- Publication Number (Ask Julie Talbert, (916) 653-6029 for this number.)
- Publication Date (Month and Year. Verify with Julie Talbert.)

Legal Notice

Use the following notice:

Legal Notice

This report was prepared as a result of work sponsored by the California Energy Commission, (Energy Commission). It does not necessarily represent the views of the Commission, its employees, or the State of California. The Commission, the

State of California, its employees, contractors, and subcontractors make no warranty, express or implied, and assume no legal liability for the information in this report; nor does any party represent that the use of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Commission nor has the Commission passed upon the accuracy or adequacy of this information in this report.

NOTE: The abbreviations “CEC” or “Commission” are not allowed in final reports.

Acknowledgement Page

This is the place for the author or principal investigator to acknowledge or express appreciation to those who participated in the project. This may be a paragraph, or a list of names, and if appropriate their affiliations.

Table of Contents

Sections to be included in the Table of Contents are as follows:

Abstract

Preface

Executive Summary

1. Introduction

- Background and Overview (Why this project was necessary)
- Project Objectives (What you planned to accomplish)
- Report Organization

2. Project Approach (What you did to accomplish your objectives)

3. Project Outcomes (What happened)

4. Conclusions and Recommendations

- Conclusions (What you learned from what happened)
- Commercialization Potential
- Recommendations (What you think should occur next)
- Benefits to California

Endnotes

References

Glossary

List of Figures

List of Tables

Appendix A—All technical papers, articles, and presentations

Appendices B thru X

Attachments

Abstract

This section should be the technical counterpart to the Executive Summary. Less marketing and sales oriented than the Executive Summary. This should be similar to what you would find in a technical trade periodical. Limited to 250 words, essentially a very brief Executive Summary. The Abstract covers the purpose, objectives, outcomes and conclusions. Contains 5-10 keywords for computer searches. Geared toward a more technical audience.

Preface

Fill in the Recipient's name, Agreement number, report title, organization, and research area, and numbers in the second to the last paragraph. Use the following Preface:

Preface

The PIER Program supports public interest energy research and development that will help improve the quality of life in California by bringing environmentally safe, affordable, and reliable energy services and products to the marketplace.

The PIER Program, managed by the Commission, annually awards up to \$62 million to conduct the most promising public interest energy research by partnering with Research, Development, and Demonstration (RD&D) organizations, including individuals, businesses, utilities, and public or private research institutions.

PIER funding efforts are focused on the following six RD&D program areas:

- Buildings Energy Efficiency End Use
- Industrial/Agricultural/Water End-Use Energy Efficiency
- Renewable Energy
- Environmentally-Preferred Advanced Generation
- Energy-Related Environmental Research
- Energy Systems Integration.

What follows is the Final Report for the **[Recipient's Name,] [Agreement Number,]** conducted by the **[Company/Organization/Affiliation]**. The report is entitled **[Report Title]**. This project contributes to the **[PIER Program Area]** program.

For more information on the PIER Program, please visit the Commission's Web Site at: <http://www.energy.ca.gov/research/index.html> or contact the Commission's Publications Unit at (916) 654-5200.

Executive Summary

A Final Report in miniature, containing all key information, summarizes the introduction, purpose, project objectives, project outcomes, conclusions, recommendations and benefits to California. It is intended to be short and bullet formatting is suggested. Assume a non-technical, management-level readership. You may want to write this as if you will hand it out at a trade show. Emphasize the benefits of the project and include who should care and why. Put on the hat of an inquisitive, reasonably well-educated lay reader who may be interested in purchasing or implementing the subject technology. Pretend that they just paid for this research project and they want to understand how and why you spent their money.

If your project has more than one project, repeat this organization for each project area. The Executive Summary needs to summarize the report, not present new information found nowhere else in the document. Go to the Commission's Web Site for further examples.

Introduction

- Background and Overview (Why this project was necessary.) - Provide relevant background; identify this project's subject area and state the goals of this research. Use Stages and Gates terminology, where appropriate, to identify what stage the project has reached in its path to market. Refer to the Agreement for this information.
- Project Objectives (What you planned to accomplish.) - Present the technical and economic objectives for your project. The objectives need to contain the way(s) to measure or know the success of having reached the objective. Use Stages and Gates terminology where appropriate. These should be taken from the Agreement and should reflect any changes made during critical project reviews or at other times during the course of the project. (Describe why these changes were made in the Project Approach section.)

Each objective shall be separately identified, a useful form is:

Project objectives were to:

- Verify (an action verb followed by relevant text)....
 - Determine....
 - Measure....
 - Develop....
- Report Organization – Provides a roadmap to the rest of the report. If there are separate final reports for a multitasked project, set the context in Background section and refer the reader to their location here.

Project Approach

This section discusses the tasks you undertook and your approach to the research (What you did to accomplish your objectives). Discuss the testing procedures you undertook and the system modifications and improvements you made.

Project Outcomes

This is where you present your results (What happened.) Organize this section so that results are presented in the same order as the objectives. A short version of each Outcome should be stated in bullet form. Supporting paragraphs that describe each Outcome should follow each bullet.

There can be more Outcomes than there were Objectives. For example, there may be more than one Outcome per Objective. It is also possible to have an unanticipated Outcome during your research. However, you can not have stranded objectives; all Objectives, whether met or not, must be discussed in this section. If this section is particularly long, then it is useful to create a summary at the end of this section where all of the bullets are drawn together as a summary.

Conclusions and Recommendations

- Conclusions (What you learned from what happened.) - Organize the Conclusions in the same order as Objectives and Outcomes. You may have Conclusions that are broader than individual Objectives and Outcomes. Please present these after you present the individual Conclusions. Conclusions must be drawn from evidence presented in the report.
- Commercialization Potential - This is where you should directly address Stages and Gates. Explain where your project is in Stages and Gates. If your project had a task to prepare a Production Readiness Plan or a similar effort related to assessing where the research is in relationship to being used in its relevant markets (i.e., Stages and Gates), this is the place to discuss that task.
- Recommendations (What you think should occur next.) - Recommendations should derive from the Conclusions presented. Recommendations specific to individual Objectives, Outcomes and Conclusions should be presented in the original order. General Recommendations should follow. Use Stages and Gates terminology where appropriate. What is the next stage for this project?
- Benefits to California - This section discusses two issues: (1) What benefits has California already received from this Agreement, if applicable, and (2) if this project is successful and the results widely used, how will California benefit? These benefits need to be related to the problems this research was intended to address. Refer to the Introduction section of the report.

Endnotes

Endnotes are preferred to footnotes.

Glossary

If there are more than 10 acronyms then a glossary with definitions for each acronym should be provided at the end of the report.

References

This is where you list all documents referred to in the body of the report. List references in standard bibliographic format. Be sure to check that shorthand references contained in the body of the report are accurate. Any documents referred to in the Appendices should be listed in the reference section in the appropriate Appendix.

Appendices

Designated by Roman numerals.

Attachments

If absolutely required, designated by Roman numerals.

Exhibit E-2: TAC PIER RD&D Project Scoring Form

Proposal Number: _____

Wind Energy Program Technical Advisory Committee Scoring of PIER RD&D Project Final Applications

Applicant

Name: _____

Project

Title: _____

Technical Advisory

Member: _____

The Scoring Committee will give a score from zero to ten for each criterion described below, based upon the information provided by the Applicant's proposal. Each score will then be multiplied by a weighting factor to obtain the total points for that criterion. Scores will be assigned in accordance with the following guidelines:

Score	Proposal Response
0	Failing Response
1 to 3	Below Average Response
4 to 6	Marginal Response
7	Average/Acceptable Response – Meets relevant considerations, satisfactory
8 to 9	Above Average Response – Meets relevant considerations, convincing
10	Exceptional Response – Complete, specific and superior, both quantitatively and qualitatively

Scoring Criteria. For each criteria listed, provide your assessment on how well this final application addresses the bullet items:

1. Soundness of Technical Approach and Scientific Baseline:

Weighting Factor: 2.0

Raw Score: _____

Proposal should address the extent to which the project will develop sound products, services and/or knowledge that improves the reliability, affordability, diversity and safety of electricity for California ratepayers by:

- Increasing wind generation penetration into the electricity market to meet RPS goals and to promote commercialization of cost-effective low speed wind turbine systems and IMC.
- Articulating the “big-picture” approach for the project and demonstrate a low speed wind turbine systems capable of operating reliably and cost-effectively in a Class 3-4

Exhibit E-2: TAC PIER RD&D Project Scoring Form

- wind regime (10m) in California. Present “timeline” for full project development to commercialization.
- Integrating the most appropriate IMC strategy to firm up wind and tailored for the region of application. Tradeoffs and considerations must be presented and discussed as well as industry partners and potential partners identified and engaged.
 - Aligning low speed wind resource generation benefits with a location and service territory needs.
 - Leveraging lessons learned from past industry projects/experiences and how current approach differs especially if alternative approaches have failed. The Applicant describes in detail, with substantiation, its past and current work in the subject technology and advances from baseline. Accomplishments (not just activities), successes and failures are described.
 - Describing technical and economic feasibility studies including barriers, issues and identification and securing of necessary permits and environmental reviews.
 - Describing the methodology and performance metrics used to determine the success of the project in achieving objectives and goals. Note quantified metrics to measure the success at the conclusion of the project must be included.
 - Justifying how and why the proposed project is the necessary, next RD&D step for the industry. Results in a series of interconnected, logical, and discrete tasks within the project’s proposed Work Statement.
 - Clearly articulating any distinctive and innovative features of the approach.
 - Demonstrating high probability of project success with a succinct Work Statement (Application Manual Attachment A-5), quality products, reasonable milestones and schedule, qualified team and other project details. Note: Projects should include tasks to complete a Test Plan, a Technology Transfer Plan, and a Production Readiness Plan as described in the Application Manual.
 - Providing necessary proprietary information (if available) to complete the project is described, along with a plan for obtaining this information. Describe plans for resolving intellectual property concerns, if applicable.

2. Reliability – Improvement in Reliability/Quality and Diversity of California’s Electricity:

Weighting Factor: 1.0 *Raw Score: _____*

Proposal should address the extent to which the project will develop products, services and/or knowledge that improves the reliability and safety of electricity for California ratepayers through:

- Improving the dispatchability of intermittent wind electricity generation by incorporating IMC strategies which maximize the value of wind resources to utilities.
- Increasing the physical reliability and security of generation by diversifying the generation portfolio for the state.
- Helping to achieve RPS goals and PIER RD&D programmatic targets with a complete wind generation package that offers performance in various wind regimes and manages intermittency risks.

Exhibit E-2: TAC PIER RD&D Project Scoring Form

- Collecting performance data and load information on a demonstration unit to close technology gaps relevant to low speed wind operation and to satisfy commercial certification and deployment needs.

3. Affordability – Improves Energy Cost/Value of California’s Electricity:

Weighting Factor: 1.0

Raw Score: _____

Proposal should address the extent to which the proposed project will lead to new product development, services and/or knowledge that improves the value of wind generated electricity and affordability of electricity for California ratepayers:

- Demonstrating a cost-effective complete wind turbine generation package by providing low speed wind generation technology coupled with commercially available systems as an IMC. (compare to current base case onshore wind technology = \$0.05/kWh without a Production Tax Credit - PTC)
- Improving efficiency for the complete wind turbine generation package.
- Increasing operating flexibility and confidence that can lead to higher wind penetration and improved energy value (i.e., for RPS bid process).
- Reducing operation and maintenance costs.

4. Relevance to Solicitation’s Targets and Stretch Goals:

Weighting Factor: 1.5

Raw Score: _____

Proposal should address the extent to which the proposed project will develop products, services and/or knowledge that meets or exceeds the targets and stretch goals by:

- Clearly identifying and explaining the quantitative or measurable technical performance goals and objectives relevant to targets in Section III, Table 1 achievable by the project.
- Showing expected values for key performance parameters for the proposed generating system and for a commercial product to meet market needs. Tradeoffs among the performance parameters are clearly discussed.
- Identifying and describes clear, significant, and quantifiable technical and economic objectives to support RPS and PIER RD&D goals.
- Describing the methodology and performance metrics used to determine the success of the project in achieving objectives and goals.

5. Likelihood of Success and Market Connection:

Weighting Factor: 1.5

Raw Score: _____

The likelihood, timing and economic value of successful market transfer of products, market utilization, services and/or knowledge resulting from the project and the extent to which the proposed project has made provisions to facilitate market transfer. Evaluations using this criterion will consider, for example:

Exhibit E-2: TAC PIER RD&D Project Scoring Form

- The probability that the project will lead to commercialized or otherwise useful products and/or services in the short-term (1-5 year), medium-term (6-10 year), and/or long-term (11+ year).
- The subsequent steps, and the approximate cost that must be taken to lead to a commercial product are discussed.
- The dollar value of these products and services, should successful commercialization or other uses occur.
- Whether specific hurdles to commercialization or other uses are addressed, such as manufacturing technology/cost, involvement of regulatory entities for projects focused on environmental benefits, participation of related companies/industries when the project addresses a component of a larger system, etc.
- The probability that science and/or knowledge resulting from the project will reach and address the needs of appropriate scientific, policy-making, industry and other communities; and the value of the science and/or knowledge to these communities.
- The likely extent of environmental impact and/or improvements (e.g., avian, community aesthetics, terrestrial animal habitat).

6. Economic Benefits – Successful Completion of the Proposed Project will Directly Impact Local and State Economies and State Ratepayers:

Weighting Factor: 1.5

Raw Score: _____

The extent to which the proposed project will result in products, services, and/or knowledge with direct economic benefits to California's economies and ratepayers by: 1) increased employment; 2) increased quality of jobs; 3) increased tax revenues or new market benefits; 4) other factor that directly increases California's gross state product. Evaluations using this criterion will consider, for example:

- Probability that the project will lead to commercialized or otherwise useful products and services in the short-term (1-5 years), medium-term (6-10 years), and long-term (over 11 years).
- Estimates (quantified metrics) for gauging the success of the project related back to the critical issues being addressed.
- Savings from the deferment of costly T&D upgrade and new construction due to locating a low speed wind facility utilizing low speed wind systems and IMC.
- The number and quality of jobs inside California that will be created should successful commercialization occur.
- Tax revenue, in-state jobs or other benefits resulting from the science and/or knowledge resulting from the project.
- Expected stakeholders (users, market segments) and communities that will benefit from the expected outcomes.
- Description of the potential market size as well as any significant market outside California.

Exhibit E-2: TAC PIER RD&D Project Scoring Form

- Related benefits such as reduced environmental emissions and costs, reduced odors, manufacturing costs, improved fuel conversion efficiency, greater reliability and durability are discussed and quantified, and related to the project objectives and goals.

7. Cost Effectiveness of the Project:

Weighting Factor: 1.5

Raw Score: _____

The cost of the proposed project will be evaluated relative to the overall public benefits being provided by the project. Evaluation criteria will consider:

- Total cost of the project.
- The amount of PIER funds requested.
- The likelihood that the project will provide significant science or technology benefits.
- The proposal demonstrates that the total project cost is appropriate, considering: 1) the significance of the barriers being addressed, 2) the project's objectives and goals, and 3) the level of effort described in the Work Statement.
- The estimated value of the public benefits to be provided by the project.
- The extra value Applicant brings based on prior projects.

8. Match Contribution:

Weighting Factor: 2.0

Raw Score: _____

The appropriateness of the proposed project and level of match funds will be evaluated based on:

- The types, amount and sources of match funds identified in the proposal.
- The amount of public (versus private) benefits that will result from the project.
- The security of the proposed match funds.
- The type of match funding proposed (e.g., cash versus in-kind contributions).
- Satisfying the minimum 50% match fund contribution (20% of 50% must come from private sources) as specified in the Application Manual.
- Project budget information provided is consistent with the work statement and itemized costs for personnel, subcontractors, materials, operating and total expenditures for each task are reasonable.
- The percentage of matching funds should be proportional to the amount of private versus public benefits that are likely to result from the project: 1) Projects providing more private benefits versus public benefits should have a higher % of match funds than projects that provide more public benefits; 2) Percentage of match funds should be greater for innovations that are closer to market adoption; 3) Projects likely to lead to commercialized products and services within a short time frame should have higher % of match funds than projects whose results are further in time from commercialization.
- Note: A financial review of the Applicant based on information will be conducted as part of the review process to assess the ability of the Applicant to successfully provide match funds and conduct the project.

Exhibit E-2: TAC PIER RD&D Project Scoring Form

9. Skills, Knowledge and Experience of Team:

Weighting Factor: 2.0

Raw Score: _____

The proposal should indicate the extent to which:

- The qualifications (resume list) of the Project Director and the Project Members (Team) to successfully conduct the project and overcome obstacles.
- The Team has sufficient experience and a demonstrated track record for bringing large complex systems to commercialization via project development, manufactured engineering improvements and market connectedness.
- The team has demonstrated its capability to perform the project's scientific and engineering (technical) tasks.
- The team is capable of administering the grant agreement to control costs, maintain the project schedule, help develop the technology and communicate status with the funding agency.
- The team has the relations, financial skills and capability to ensure market connection of the technology.
- The team has adequate resources and flexibility to overcome resource, personnel changes and knowledge shortfalls.

10. Other Significant Factors that Increase the Project's Merit:

Weighting Factor: 1.0

Raw Score: _____

Other significant factors that increase a project's merit will be considered by the proposal evaluation team. The following are examples:

- The Applicant already has access to a California low speed wind site for demonstration of proposed turbine technology.
- The proposal clearly shows that the Applicant (approach, resources, innovative and unique technology for low speed wind turbine and commercially available IMC) has the potential to successfully reach commercialization in the near-term (1-3 year). The extent to which any patent lawsuits or claims jeopardize completion of the grant agreement should be identified.
- The proposal addresses key problems and focus areas consistent with the goals and objectives stated in the CEC Energy Action Plan (available on the CEC website www.energy.ca.gov)
- The Applicant's performance on previous Commission agreements has been superior (e.g., goals and objectives either were achieved or the Applicant documented significant lessons learned, and the Applicant responded to Commission direction. Deliverables/products were complete and submitted on time and within budget).
- Team is uniquely qualified and demonstrates financial capability to successfully complete the project.

Exhibit E-2: TAC PIER RD&D Project Scoring Form

- The proposed project is well-integrated with, and complementary to, other low wind speed turbine and intermittency technology RD&D efforts, such as those being funded by the U.S. Department of Energy, other federal government agencies, agencies from other states, and others (please specify).

Summary of all evaluation scores

- Total possible points: 150
- Minimum passing score: 105 (70%)

Summary of Individual TAC Member Scoring for Proposal No.: _____			
CRITERION	WEIGHTING	RAW SCORE	WEIGHTED SCORE
1. Soundness of Technical Approach & Scientific Baseline	2.0		
2. Reliability	1.0		
3. Affordability	1.0		
4. Relevance to Solicitation's Targets and Stretch Goals	1.5		
5. Likelihood of Success and Market Connection	1.5		
6. Economic Benefits	1.5		
7. Cost Effectiveness of the Project	1.5		
8. Match Contribution	2.0		
9. Skills, Knowledge and Experience of Team	2.0		
10. Other significant factors that increase the project's merit	1.0		
TOTAL TAC MEMBER WEIGHTED SCORE: _____ of 150 possible points			

TAC Member Signature

Date

Exhibit 3:

Summary of Allowable Travel and Per Diem Expenses

Summary of Allowable Travel and Per Diem Expenses

Recipients shall be reimbursed for travel and per diem on the same basis as nonrepresented State employees. The rates listed below will be in effect for the term of this Agreement, unless and until the State's per diem reimbursement rates for nonrepresented employees are revised. Travel expenses not listed in this section cannot be reimbursed.

Travel that has not been budgeted in the Budget shall require prior written authorization from the Commission Project Manager. Travel shall be paid from the Recipient's office location where the employees assigned responsibilities for this agreement are permanently assigned.

Recipient must document and prepare travel expense claims as follows:

- Recipient's invoice must detail expenses using the rates listed below.
- Expenses must be listed by trip including dates and times of departure and return, in order to establish appropriate per diem rates (employee's travel claim may be attached instead).
- Attach required receipts for travel expenses claimed (receipts are not required for meals or incidentals within allowable rates, but you must retain all meal receipts for audit by the State or IRS).

Transportation Rates

- 1) Common carrier, airline coach class or equivalent are reimbursable in accordance with receipts or vouchers attached to Recipient's invoice verifying expenditure.
- 2) Private or Recipient-owned automobile mileage is reimbursable up to 34 cents per mile. However, if travel by common carrier is more economical than by automobile, the rate for the common carrier will be reimbursed.
- 3) Rental car receipts must be attached to Recipient's travel expense claim. However, if taxi service is less expensive than a rental car the rate for taxi will be reimbursed.
NOTE: Insurance coverage is not reimbursable.
- 4) Parking fees, taxi fees, tolls and public transit fees may be reimbursed up to \$10.00 without receipt.

In-State Travel Per Diem Rates

- 1) Apply to travel **more than 50 miles** away from Recipient's headquarters,
- 2) Per diem is reimbursable as follows:
 - a) **Less than 24 hour trip**, Recipient shall be reimbursed for meals and lodging according to the following rates:
 - Breakfast: Up to \$ 6.00, if began at or prior to 6 a.m. and terminated at or after 9 a.m.
 - Lunch: Not reimbursed on trip of less than 24 hours
 - Dinner: Up to \$18.00, if began at or prior to 4 p.m. and terminated at or after 7 p.m.
 - Incidentals: Not reimbursed on trip of less than 24 hours
 - b) **More than 24 hours**, Recipient will be reimbursed for each 24 hour period for meals, lodging and incidentals according to the following rates:
 - Breakfast: Up to \$ 6.00 if trip began at or before 6 am.
 - Lunch: Up to \$ 10.00 if trip began at or before 11 am.
 - Dinner: Up to \$18.00 if trip began at or before 5 pm.
 - Incidentals: Up to \$6.00
 - c) Time Frame for fractional day after 24 hours of travel:
 - Breakfast: If trip ends at or after 8 a.m.
 - Lunch: If trip ends at or after 2 p.m.
 - Dinner: If trip ends at or after 7 p.m.
- 2) Lodging (Receipt Required)
 - a) Statewide, except in b) and c) below, actual receipted lodging up to \$84.00 per night plus tax.
 - b) When required to obtain lodging in the counties of Los Angeles and San Diego, reimbursement will be for actual receipted lodging to a maximum of \$110.00 per night plus tax.
 - c) When required to obtain lodging in the counties of Alameda, San Francisco, San Mateo and Santa Clara, reimbursement will be for actual receipted lodging to a maximum of \$140.00 per night plus tax.

Out-of-State Travel Per Diem Rates

Meals/Incidentals: Same as in-state rates

Lodging: Actual expense with receipt (subject to Commission Project Manager approval).

Out-of-Country Travel Per Diem Rates

Meals/Incidentals: Actual expense in accordance with foreign travel rates published by U.S. Government.

Lodging: Actual expense with receipt (subject to Commission Project Manager approval).